

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: ERMA CAMERON Examiner #: 71098 Date: 6/14/04  
Art Unit: 1762 Phone Number 302-1416 Serial Number: 10/689423  
Mail Box and Bldg/Room Location: 8 D 69 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.  
\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_  
Inventors (please provide full names): see attached  
\_\_\_\_\_  
Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*A composition that is a stable at room temperature, but reacts at elevated temperature, to make a coating or film:*

*- a polyisocyanate (preferred), polyepoxide, polyanhydride or polyketone  
AND  
- a polysulphonylhydrazide (see the 4 cpds in claim 7), as a powdered solid (see claim 2)*

*Please search on [(poly) isocyanate or polyurethane] AND [the 4 cpds in claim 7] (first one is most common)*

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>EL</u>	NA Sequence (#)	STN	<u>\$537.58</u>
Searcher Phone #:	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#) <u>(1)</u>	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic <u>(and)</u>	Dr. Link	
Date Completed: <u>6-15-04</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>5</u>	Fulltext	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: <u>70</u>	Other	Other (specify)	

Art Unit: 1700

CLMPTO 05/22/2002 GB

1 (Twice Amended) <sup>polyurethane</sup> A process for the preparation of a coating, adhesive, film or sheet wherein a mixture of a polyisocyanate functional, a polyepoxide functional, a polyanhydride functional or a polyketone functional compound or polymer and a dispersion of a compound containing reactive hydrogen, which compound is ~~a polyhydrazide, a polysemicarbazide, a polysulphonylhydrazide, or a carbodihydrazide~~, in a material which contains no groups which are reactive toward the compound containing reactive hydrogen, in which mixture the reactivities of the isocyanate, epoxide, anhydride or the ketone functions towards the ~~hydrazide, semicarbazide, sulphonylhydrazide or carbodihydrazide~~ is absent or low at ambient conditions and the reactivities are high at temperatures of 50 to 300° C, is applied onto a substrate at ambient temperature, followed by reacting the above compounds at 50 to 300° C for 1 to 10 min, or is applied onto a substrate at ambient temperature, followed by immersing the coated substrate into water of 20 to 100° C for 1 to 10 min.

2 (Amended) The process according to claim 1, wherein at ambient temperature said compound containing reactive hydrogen is a solid material, a powder, a granule, a flake or grind or a mixture thereof.

3 (Amended) The process according to claim 2 wherein size of the grind of said compound containing reactive hydrogen is from 0.5 to 200 µm.

4 (Amended) The process according to claim 1, wherein said polyhydrazide is selected from the group consisting of oxalic dihydrazide, malonic dihydrazide, succinic dihydrazide, adipic dihydrazide, sebacic dihydrazide, dodecanic dihydrazide, isophthalic dihydrazide, piperazine N,N'-dihydrazide, m-benzene-dihydrazide, and p-benzene-dihydrazide.

Art Unit: 1700

5. (Twice Amended) The process according to claim 4, wherein said polyhydrazide is selected from the group consisting of adipic dihydrazide and carbodihydrazide

6. (Twice Amended) The process according to claim 1, wherein said polysemicarbazide is selected from the group consisting of ethane-disemicarbazide, butane-disemicarbazide, propane-disemicarbazide, hexane-disemicarbazide, para-benzene-disemicarbazide, toluene-2,4-disemicarbazide, toluene-2,4-disemicarbazide, bis (4-semicarbazido-phenyl)ether, bis (4,4'-hydrozide)-3,3'-dimethoxy biphenyl, di-N,N'-methylamino urea, 4,4'-methylene-bis (cyclohexene semicarbazide), 3-semicarbazide-methyl-3,5,5-trimethylcyclohexyl-semicarbazide and mixtures thereof

7. (Twice Amended) The process according to claim 4, wherein said polysulphonyl hydrazide is selected from the group consisting of p,p'-oxybis benzene sulphonyl hydrazide, bis(methylhydrazido)sulphate, bis(methylhydrazidosulphonyl)piperazine, and bis p-(hydrazidosulphonylamino)benzene.

Claim 8 has been canceled.

9. (Twice Amended) The process according to claim 1, wherein the material which contains no groups which are reactive towards the compound containing reactive hydrogen, is a polyether, a polyester, a polycarbonate, a polyacrylate, a polyvinylalkylether, a polyurethane, a polyacrylate, a polyvinylalkylether, or a polyurethane.

10. (Twice Amended) The process according to claim 1, wherein said mixture of the polyisocyanate functional, the polyepoxy functional, or the polyketone functional compound or polymer and the compound containing reactive hydrogen, is solvent free

→ the matrix material is almost any polymer (do not use these terms)



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**\*BIBDATASHEET\***

Bib Data Sheet

**CONFIRMATION NO. 7013**

SERIAL NUMBER 10/089,423	FILING DATE 05/22/2002  RULE	CLASS 427	GROUP ART UNIT 1762	ATTORNEY DOCKET NO. 30394-1068
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**APPLICANTS**

Laurentius Cornelius Josephus Hesselmans, 'S-Hertogenbosch, NETHERLANDS;

Dirk Pieter Spek, Meeuwen, NETHERLANDS;**\*\* CONTINUING DATA \*\*\*\*\***

This application is a 371 of PCT/NL00/00699 09/29/2000

**\*\* FOREIGN APPLICATIONS \*\*\*\*\***

NETHERLANDS 1013179 09/30/1999

Foreign Priority claimed 35 USC 119 (a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Examiner's Signature _____ Initials _____	STATE OR  COUNTRY NETHERLANDS	SHEETS  DRAWING	TOTAL  CLAIMS 21	INDEPENDENT  CLAIMS 1
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**ADDRESS**

005179  
 PEACOCK MYERS AND ADAMS P C  
 P O BOX 26927  
 ALBUQUERQUE , NM  
 871256927

**TITLE**

Process for the preparation of a coating, a coated substrate, an adhesive, a film or sheet, for the thus obtained products and the coating mixture to be used in the process

FILING FEE  RECEIVED 1020	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
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=> file reg

FILE 'REGISTRY' ENTERED AT 19:21:51 ON 15 JUN 2004  
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=> display history full l1-

FILE 'HCAPLUS' ENTERED AT 18:25:32 ON 15 JUN 2004

L1 9 SEA HESSELMANS ?/AU OR HESSELMANN'S ?/AU  
L2 1026 SEA SPEK ?/AU  
L3 1 SEA L1 AND L2  
SEL L3 1 RN

FILE 'REGISTRY' ENTERED AT 18:26:09 ON 15 JUN 2004

L4 70 SEA (3779-63-3/BI OR 68084-58-2/BI OR 100224-74-6/BI OR  
L5 472123 SEA ?HYDRAZID?/CNS  
L6 24 SEA L5 AND L4  
L7 3 SEA L6 AND S/ELS  
SEL L7 1 RN  
L8 1 SEA 332421-39-3/BI  
SEL L7 3 RN  
L9 1 SEA 80-51-3/BI  
L10 4 SEA L4 AND S/ELS  
L11 1 SEA L10 NOT L7  
SEL L11 1 RN  
L12 1 SEA 120551-83-9/BI  
E BIS(METHYLHYDRAZIDO)SULFATE/CN  
E ?METHYLHYDRAZIDO?/CNS AND ?SULFATE?/CNS  
L13 0 SEA ?METHYLHYDRAZIDO?/CNS AND ?SULFATE?/CNS  
E SULFURIC ACID, BIS(2-METHYLHYDRAZIDE)/CN  
E SULFONIC ACID, BIS(2-METHYLHYDRAZIDE)/CN  
E C2H10N4O2

FILE 'LREGISTRY' ENTERED AT 18:46:44 ON 15 JUN 2004

L14 STR

FILE 'REGISTRY' ENTERED AT 18:50:37 ON 15 JUN 2004

L15 0 SEA SSS SAM L14  
L16 0 SEA FAM FUL L14  
L17 3 SEA L9 OR L8 OR L12  
SEL L17 1-3 RN  
EDIT E1-E3 /BI /CRN  
L18 13 SEA (120551-83-9/CRN OR 332421-39-3/CRN OR 80-51-3/CRN)  
L19 10 SEA L18 AND PMS/CI

FILE 'HCA' ENTERED AT 18:54:49 ON 15 JUN 2004

L20 14 SEA L19  
L21 679 SEA L17  
L22 188705 SEA ?POLYISOCYANAT? OR ?DIISOCYANAT? OR TRIISOCYANAT? OR  
POLYURETHAN## OR URETHAN##  
L23 265137 SEA EPOXY OR EPOXIES OR EPOXID? OR POLYEPOX?  
L24 1907 SEA POLYANHYDRID## OR POLY(A)ANHYDRID##  
L25 12987 SEA POLYKETONE# OR POLY(A)KETONE#  
L26 52 SEA L21 AND L22  
L27 66 SEA L21 AND L23  
L28 3 SEA L21 AND L24  
L29 4 SEA L21 AND L25  
E COATINGS/CV  
L30 43456 SEA "COATING(S)"/CV OR COATINGS/CV  
E COATING MATERIALS/CV  
L31 246864 SEA "COATING MATERIALS"/CV  
E COATING PROCESS/CV  
L32 111197 SEA "COATING PROCESS"/CV  
E ADHESIVES/CV  
L33 87733 SEA ADHESIVES/CV  
L34 7 SEA L26 AND (L30 OR L31 OR L32)  
L35 5 SEA L27 AND (L30 OR L31 OR L32)  
L36 4 SEA L26 AND L33  
L37 14 SEA L27 AND L33  
L38 9 SEA L26 AND L27  
L39 2 SEA L20 AND (L30 OR L31 OR L32)  
L40 2 SEA L20 AND L33

FILE 'LCA' ENTERED AT 19:09:12 ON 15 JUN 2004

L41 7647 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR  
OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR  
FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR  
SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR  
OVERSPREAD?)/BI,AB  
L42 5976 SEA (ADHESI? OR ADHERE? OR STICK? OR CLING? OR BOND? OR  
CEMENT? OR CONGLUTIN? OR AGGLUTIN? OR MUCILAG? OR TACK?  
OR GLUE? OR GLUING# OR PASTE? OR PASTING# OR GUM? OR  
HOLD? OR GRIP? OR GRASP? OR BIND?)/BI,AB  
L43 1840 SEA (ADHESI? OR ADHERE? OR STICK? OR CLING? OR BONDER?  
OR CONGLUTIN? OR AGGLUTIN? OR MUCILAG? OR TACK? OR GLUE?  
OR GLUING# OR PASTE? OR PASTING# OR GUM? OR BINDER?)/BI,A  
B

FILE 'HCA' ENTERED AT 19:11:02 ON 15 JUN 2004

L44 34 SEA L26 AND L41  
L45 43 SEA L27 AND L41  
L46 14 SEA L26 AND L43  
L47 27 SEA L27 AND L43

L48 29 SEA (L44 OR L45) AND (L46 OR L47)

FILE 'LCA' ENTERED AT 19:16:14 ON 15 JUN 2004

L49 5586 SEA (PARTICL? OR MICROPARTICL? OR PARTICULAT? OR DUST?  
OR GRIT? OR GRAIN# OR GRANUL? OR POWDER? OR SOOT? OR  
SMUT? OR FINES# OR PRILL? OR FLAKE# OR PELLET? OR  
BB#)/BI,AB

FILE 'HCA' ENTERED AT 19:17:29 ON 15 JUN 2004

L50 9 SEA L26 AND (L49 OR GRIND?)

L51 17 SEA L27 AND (L49 OR GRIND?)

L52 25 SEA L28 OR L29 OR L34 OR L35 OR L36 OR L38 OR L39 OR L40  
OR L50

L53 25 SEA (L37 OR L51) NOT L52

L54 11 SEA L48 NOT (L52 OR L53)

=> file hca

FILE 'HCA' ENTERED AT 19:22:13 ON 15 JUN 2004

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=> d l52 1-25 cbib abs hitstr hitind

L52 ANSWER 1 OF 25 HCA COPYRIGHT 2004 ACS on STN

138:256236 **Epoxy**-based structural hot-melt materials for  
reinforcement of structural members and their manufacture.  
Czaplicki, Michael J.; Kosal, David J.; Antrim, Jeanne (L & L  
Products, Inc., USA). PCT Int. Appl. WO 2003022953 A1 20030320, 19  
pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG,  
BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES,  
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,  
NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR,  
TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,  
TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI,  
FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG,  
TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US28185  
20020905. PRIORITY: US 2001-PV318183 20010907.

AB The materials are useful for reinforcement of structural members,  
esp. joints such as a hem flange joint of an automobile. The  
materials comprise <20% ethylene copolymer, <40% **epoxy**  
resin, <45% **epoxy**-based resin, <2% blowing agent, 1-5%  
curing agent, and optionally, <2% curing agent accelerator, 25-55%  
filler, and <1% coloring agent. The application of the material

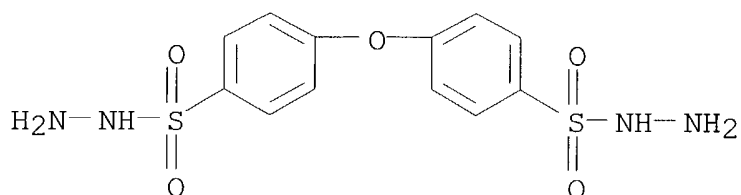
comprises (1) providing a structural member having two substrates forming a space to be joined; (2) placing the above material in proximity of the space to be joined; (3) exposing the material to a heat source causing it to flow, fill, and cure in the defined area or space to be joined.

IT 80-51-3

(blowing agent; **epoxy**-based structural hot-melt materials for reinforcement of structural members)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C09J163-00; C08L063-00; C08G059-00; B62D029-00

CC 38-3 (Plastics Fabrication and Uses)

ST **epoxy** resin hot melt foam structural member; ethylene copolymer **epoxy** resin structural member reinforcement

IT Blowing agents

(Expancel; **epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT **Epoxy** resins, uses

(bisphenol F-based; **epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT Phenolic resins, uses

(**epoxy**, novolak; **epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT Automobiles

Crosslinking agents

(**epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT **Epoxy** resins, uses

(**epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT Plastic foams

(**epoxy**-based structural hot-melt materials for reinforcement of structural members)

IT **Polyurethanes**, uses

(**epoxy**; **epoxy**-based structural hot-melt materials for reinforcement of structural members)

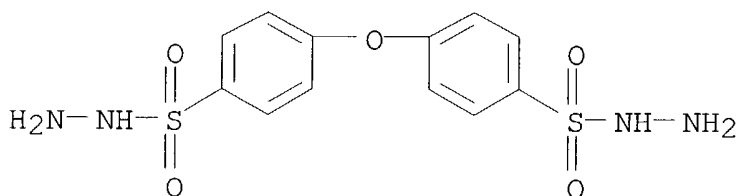
IT Seals (parts)

(flanged; **epoxy**-based structural hot-melt materials for



- reinforcement of structural members)
- IT Joints, mechanical  
(hem flange; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT **Epoxy** resins, uses  
(phenolic, novolak; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT **Epoxy** resins, uses  
(**polyurethane**-; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT Alkenes, uses  
( $\alpha$ -, polymers with ethylene; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT **80-51-3** 123-77-3, Azodicarbonamide 1576-35-8, p-Toluenesulfonyl hydrazide  
(blowing agent; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT 461-58-5, Cyanoguanidine 504-66-5, Dicyanamide  
(curing agent; **epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT 288-32-4, Imidazole, uses  
(**epoxy**-based structural hot-melt materials for reinforcement of structural members)
- IT 74-85-1D, Ethylene, copolymer 74-85-1D, Ethylene, polymers with  $\alpha$ -olefins 9010-86-0, Ethylene-ethyl acrylate copolymer 24937-78-8, Ethylene-vinyl acetate copolymer 25068-38-6, Bisphenol A **epoxy** resin 25103-74-6, Ethylene-methyl acrylate copolymer 25750-84-9, Ethylene-butyl acrylate copolymer 26780-20-1, Ethylene-vinyl acrylate copolymer 40081-37-6, Ethyl methacrylate-glycidyl methacrylate copolymer  
(**epoxy**-based structural hot-melt materials for reinforcement of structural members)
- L52 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 137:318858 PTC flat heat generating bodies with fuse functions. Kagawa, Minoru; Tamura, Tomoki (Honey Kasei K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2002313541 A2 20021025, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-109698 20010409.
- AB The title heat generating bodies comprise sheet-like substrates, PTC heat generating layers, and thermally expansive layers which contain thermally-expanding spherical **particles** or thermally-dissolving compds. and are placed on  $\geq 1$  of the heat generating layers. The heat generating bodies can fast sense abnormal temp. rise and completely cut elec. circuits. X
- IT **80-51-3**, 4,4'-Oxybis(benzene-sulfonyl-hydrazide)  
(in thermally expansive layers for PTC flat heat generating bodies with fuse functions)

RN 80-51-3 HCA  
 CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM H05B003-20  
 ICS H05B003-00; H05B003-14  
 CC 76-2 (Electric Phenomena)  
 IT Acrylic polymers, uses  
 Polyesters, uses  
**Polyurethanes**, uses  
 (binders in thermally expansive layers for PTC flat heat generating bodies with fuse functions)  
 IT **Particles**  
 (spherical; thermally expansive **particles** in thermally expansive layers for PTC flat heat generating bodies with fuse functions)  
 IT **80-51-3**, 4,4'-Oxybis(benzene-sulfonyl-hydrazide)  
 (in thermally expansive layers for PTC flat heat generating bodies with fuse functions)  
 IT 7440-44-0, Carbon, uses  
 (**particles**; PTC flat heat generating bodies with fuse functions)

L52 ANSWER 3 OF 25 HCA COPYRIGHT 2004 ACS on STN

136:330599 Areal implant with ultrasonically detectable elements.

Priewe, Joerg; Schuldt-Hempe, Barbara; Walther, Christoph (Ethicon GmbH, Germany). PCT Int. Appl. WO 2002030482 A1 20020418, 57 pp.

DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English).

CODEN: PIXXD2. APPLICATION: WO 2001-EP10086 20010831. PRIORITY: DE 2000-10050199 20001011.

AB An areal implant has a flexible basic structure on a polymer basis and ultrasonically detectable elements which contain or produce gas and which are set up for detectability for at least four weeks after

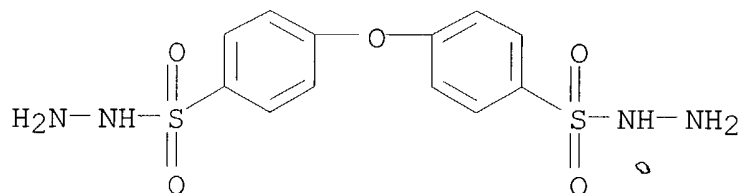
implantation. The implant can be non-ultrasonically detectable elements are foams or microcapsules embedded in a matrix. The ultrasonically detectable elements are preferably designed as pre-shaped bodies or linear structures such as e.g. threads. Hollow polyimide microfibers were wound onto a 0.3 mm thick polypropylene filament at 5 cm intervals to a width of approx. 1.3 cm so that a double winding resulted. These regions were fixed with Histoacryl and then sealed with paraffin wax. These marked filaments can be incorporated into meshes as stationary threads in the crochet gal technique. Whereas the polypropylene filament was hardly visible in the ultrasound, the markings were clearly recognizable. Ultrasound view of the marked filament is presented.

IT 80-51-3

(areal implant with ultrasonically detectable elements)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM A61L027-50

ICS A61L026-00

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

IT Acrylic polymers, biological studies

Collagens, biological studies

Fats and Glyceridic oils, biological studies

Fatty acids, biological studies

Fluoropolymers, biological studies

Glass, biological studies

Metals, biological studies

Polyamides, biological studies

#### **Polyanhydrides**

Polycarbonates, biological studies

Polyethers, biological studies

Polyimides, biological studies

Polymers, biological studies

Polyphosphates

Polyphosphazenes

Polysaccharides, biological studies

Polysiloxanes, biological studies

Waxes

(areal implant with ultrasonically detectable elements)

IT **Polyketones**

(arylether derivs.; areal implant with ultrasonically detectable elements)

- IT 57-56-7, Semicarbazide 57-56-7D, Semicarbazide, derivs. 65-85-0, Benzoic acid, biological studies 75-73-0, Perfluoromethane 76-16-4, Perfluoroethane 76-19-7, Perfluoropropane **80-51-3** 87-69-4, Tartaric acid, biological studies 97-65-4D, Itaconic acid, polymers 107-21-1, Ethylene glycol, biological studies 110-16-7, Maleic acid, biological studies 110-16-7D, Maleic acid, esters and anhydrides 111-46-6, Diethylene glycol, biological studies 112-27-6, Triethylene glycol 112-60-7, Tetraethylene glycol 118-48-9, Isatoic acid anhydride 123-77-3, Azodicarbonamide 124-38-9, Carbon dioxide, biological studies 127-17-3,  $\alpha$ -Ketopropionic acid, biological studies 144-62-7D, Oxalic acid, derivs. 254-18-2D, Benzoxazine, derivs. 288-94-8D, 1H-Tetrazole, derivs. 302-01-2D, Hydrazine, derivs. 355-25-9, Perfluorobutane 471-34-1, Calcium carbonate, biological studies 506-87-6, Ammonium carbonate 541-50-4D, Acetoacetic acid, derivs. 542-05-2 678-26-2, Perfluoropentane 1333-74-0, Hydrogen, biological studies 2551-62-4, Sulfur hexafluoride 3375-11-9 7439-90-9, Krypton, biological studies 7440-01-9, Neon, biological studies 7440-37-1, Argon, biological studies 7440-59-7, Helium, biological studies 7440-63-3, Xenon, biological studies 7727-37-9, Nitrogen, biological studies 7782-44-7, Oxygen, biological studies 10105-42-7, Trihydrazinotriazine 10396-10-8 13446-48-5, Ammonium nitrite 18039-42-4, 5-Phenyltetrazole 25265-75-2, Butanediol 25322-68-3, Polyethylene glycol 26264-14-2, Propanediol 26677-08-7 26762-52-7, Hexanediol 27189-40-8D, polymers with diols 37205-61-1, Protease inhibitor

(areal implant with ultrasonically detectable elements)

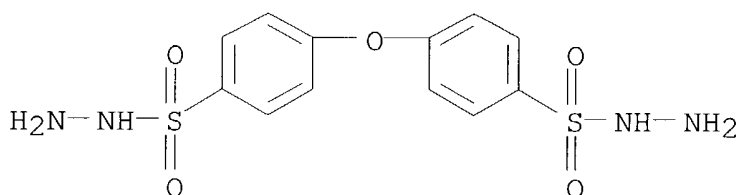
L52 ANSWER 4 OF 25 HCA COPYRIGHT 2004 ACS on STN

136:264216 Production of water-resistant wallpaper having  $\geq 30$  minute Stockigt sizing degree. Sasaki, Osamu; Kitagawa, Yosuke; Hoshikawa, Ryuichi (Matsui Shikiso Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002088693 A2 20020327, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-273155 20000908.

AB Title wallpaper is produced by laminating on a substrate (A) a plastic foam layer composed of blowing agents and curable resins, (B) a nonwoven fabric layer, and then (C) a soiling-resistant coating layer, wherein the blowing agents comprise swellable capsulated 50-95 and decomposable ones 50-5 wt%, and the crosslinking components in A penetrate into the nonwoven layer so that the two layers are essentially integrated together. Thus, a fire-resistant paper substrate was coated with an aq. compn. comprising Panflex 4500 (55% EVA emulsion) 20, YS-002 (OH- and

COOH-contg. acrylic resin, 40% solids content) 30, the swellable blowing agent Microsphere F 85 7, the decomposable 4,4'-oxybis(benzenesulfonylhydrazide) 0.5, CaCO<sub>3</sub> 20, Al hydroxide 15, TiO<sub>2</sub> 5, and Prominate XC 910 (blocked isocyanate) 1.5 parts, laminated with a heat-melt polyester nonwoven web, printed with patterns, coated with an antisoiling layer contg. paraffin wax-contg. acrylic emulsion 25, YS-002 10, and Prominate XC 910 0.5 part, foamed, cured, and embossed to give a wallpaper sheet having Stockigt sizing degree 93 min.

- IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(as blowing agent for prepn. of plastic foam-nonwoven wallpaper having high sizing degree)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



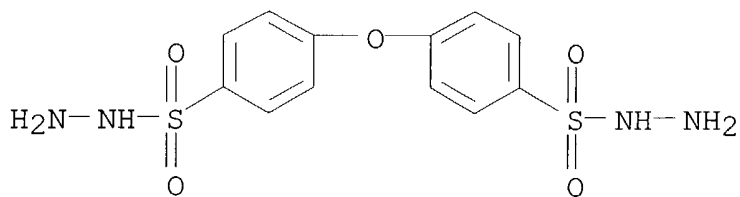
- IC ICM D21H027-20
- ICS B32B005-24; C08G018-80; C08J009-04; C08L023-08; C08L033-00; D06N007-02
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 40, 42, 43
- IT **Coating materials**  
(antisoiling; for wallpaper having high sizing degree)
- IT **Epoxy resins, uses**  
(as crosslinker in antisoiling coating for wallpaper having high sizing degree)
- IT **Coating materials**  
(gas-impermeable; for prepn. of plastic foam-nonwoven wallpaper having high sizing degree)
- IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide) 9010-76-8,  
Microsphere F 85  
(as blowing agent for prepn. of plastic foam-nonwoven wallpaper having high sizing degree)

L52 ANSWER 5 OF 25 HCA COPYRIGHT 2004 ACS on STN

135:312296 Low density dielectric having low microwave loss. Chamberlain, Craig S.; Brennan, Joan V.; Gettinger, Constance L.; Wilson, Robert W. (3M Innovative Properties Company, USA). PCT Int. Appl. WO 2001078085 A2 20011018, 33 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR,

CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US5877 20010223. PRIORITY: US 2000-544067 20000406.

- AB Disclosed is a composite material comprising a matrix material comprising a microwave transmissive polymer; and from .apprx.1-65 vol. percent of a **particulate** filler dispersed in the matrix. This **particulate** filler is characterized by an elec. conductive coating on the filler **particles**, **particles** selected from spheroides and ellipsoids having a major dimension below .apprx.0.5 mm and **particles** having an aspect ratio .gtorsim.2-1 having a minor dimension below 100  $\mu\text{m}$ , and a combination of **particle** size and coating thickness sufficient to yield a combination of a composite material dielec. const. between .apprx.1.2-100, and a composite material microwave loss tangent .ltorsim.0.10 at 1 GHz.
- IT **80-51-3**, Celogen OT  
(blowing agent; low d. composite dielec. having low microwave loss)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM H01B
- CC 76-10 (Electric Phenomena)  
Section cross-reference(s): 37
- IT **Coating materials**  
(elec. conductive; low d. composite dielec. having low microwave loss)
- IT **Coating process**  
(electroless, elec. conductive coating on fillers; low d. composite dielec. having low microwave loss)
- IT Ceramics  
Microspheres  
**Particles**

- (filler; low d. composite dielec. having low microwave loss)
- IT Fluoropolymers, processes  
 Fluoropolymers, processes  
 Natural rubber, processes  
 Polyamides, processes  
 Polyesters, processes  
 Polyolefins  
 Polysiloxanes, processes  
**Polyurethanes**, processes  
 Synthetic rubber, processes  
 (microwave transmissive polymer; low d. composite dielec. having low microwave loss)
- IT Fillers  
 (particulate; low d. composite dielec. having low microwave loss)
- IT **Coating process**  
 (plasma spraying, elec. conductive coating on fillers, cathodic arc; low d. composite dielec. having low microwave loss)
- IT **80-51-3**, Celogen OT  
 (blowing agent; low d. composite dielec. having low microwave loss)

L52 ANSWER 6 OF 25 HCA COPYRIGHT 2004 ACS on STN *my case*  
 134:282166 Preparation of a coating, a coated substrate, an adhesive, a film or sheet, and the coating mixture to be used. Hesselmans, Laurentius Cornelius Josephus; Spek, Dirk Pieter (Stahl International B.V., Neth.). PCT Int. Appl. WO 2001023451 A2 20010405, 33 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-NL699 20000929. PRIORITY: NL 1999-1013179 19990930.

- AB In this process, a mixt. of a **polyisocyanate** functional, a **polyepoxide** functional, a **polyanhydride** functional or a **polyketone** functional compd. or polymer and a compd. contg. reactive H, in which the compd. contg. reactive H is dispersed in a nonreactive matrix, which mixt. is not or low reactive at ambient conditions and highly reactive under selected conditions, is applied onto a substrate at ambient temp., followed by heating. At ambient temp. the compd. contg. reactive H is a solid material, a **powder**, a **granule**, a **flake** or **grind** or a ground mixt. The coatings, coated substrates, adhesives, films, sheets, impregnated substrates,

synthetic leathers, in-mold coatings, coated leathers, coated poly(vinyl chloride), coated nonwovens, coated coagulated **polyurethane** substrates, breathable coated substrates, are obtained by applying the the title process.

IT 332421-31-5P

(coating or film; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

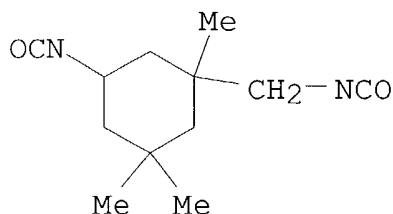
RN 332421-31-5 HCA

CN Hexanedioic acid, polymer with 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 4,4'-oxybis[benzenesulfonic acid] dihydrazide (9CI) (CA INDEX NAME)

CM 1

CRN 4098-71-9

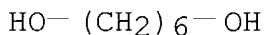
CMF C12 H18 N2 O2



CM 2

CRN 629-11-8

CMF C6 H14 O2

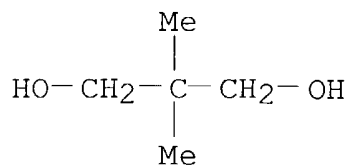


CM 3

CRN 126-30-7

CMF C5 H12 O2

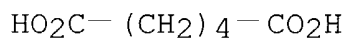




CM 4

CRN 124-04-9

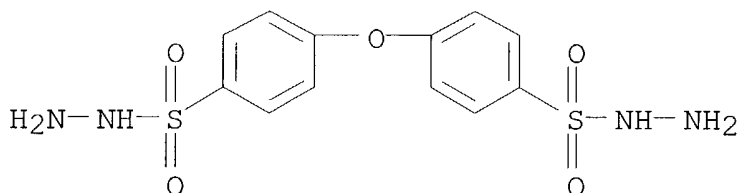
CMF C6 H10 O4



CM 5

CRN 80-51-3

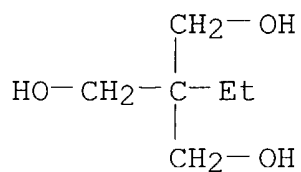
CMF C12 H14 N4 O5 S2



CM 6

CRN 77-99-6

CMF C6 H14 O3



IT 80-51-3, p,p'-Oxybis benzene sulfonyl hydrazide

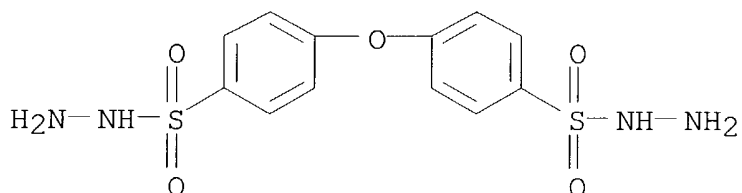
120551-83-9 332421-39-3

(curative; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic

vapors)

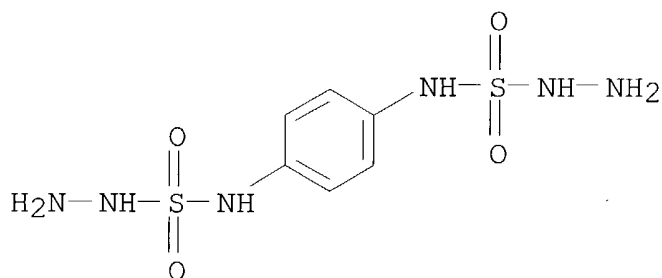
RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



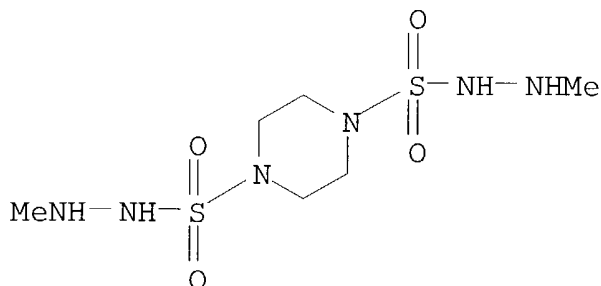
RN 120551-83-9 HCA

CN Hydrazinesulfonamide, N,N'-1,4-phenylenebis- (9CI) (CA INDEX NAME)



RN 332421-39-3 HCA

CN 1,4-Piperazinedisulfonic acid, bis(2-methylhydrazide) (9CI) (CA INDEX NAME)



IC ICM C08G018-00

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38

ST hydrazide solid curative coating; carbazide solid curative coating;  
 semicarbazide solid curative coating; sulfonylhydrazide solid  
 curative coating; **polyurethane** coating curative

IT **Adhesives****Coating materials**

Crosslinking kinetics

Films

Leather substitutes

(adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT **Epoxy resins, uses**

(for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT **Polyurethanes, uses**

(polyether-; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT 332421-16-6P 332421-17-7P 332421-18-8P 332421-19-9P  
 332421-20-2P 332421-21-3P 332421-23-5P 332421-24-6P  
 332421-25-7P 332421-26-8P 332421-27-9P 332421-28-0P  
 332421-29-1P 332421-30-4P **332421-31-5P** 332421-32-6P  
 332421-33-7P 332840-39-8P

(coating or film; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT 50-01-1, Guanidine hydrochloride 56-87-1, Lysine, uses  
**80-51-3**, p,p'-Oxybis benzene sulfonyl hydrazide 110-85-0,  
 Piperazine, uses 142-64-3, Piperazine dihydrochloride 497-18-7,  
 Carbodihydrazide 506-93-4, Guanidine nitrate 593-87-3, Guanidine  
 acetate 925-83-7, Sebacic dihydrazide 996-98-5, Oxalic  
 dihydrazide 2760-98-7, Isophthalic dihydrazide 3815-86-9,  
 Malonic dihydrazide 4080-98-2 4146-43-4, Succinic dihydrazide  
 7204-34-4, Piperazine diacetate 29557-85-5 32251-26-6  
 62917-74-2 92238-37-4 100224-74-6, Guanidine carbonate  
**120551-83-9** 123852-58-4 126953-51-3 199926-21-1  
 332421-34-8 332421-36-0 332421-37-1 **332421-39-3**  
 332421-40-6 332840-40-1

(curative; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT 109-85-3DP, reaction products with **polyurethane** prepolymer  
 116-09-6DP, Hydroxyacetone, reaction products with  
**polyurethane** prepolymer 68084-58-2DP, reaction products  
 with hydroxyacetone 332849-22-6DP, PEC 205, reaction products with  
 methoxyethylamine

(for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT 302-01-2, Hydrazine, reactions 822-06-0, Hexamethylene  
**diisocyanate** 4098-71-9, IPDI 5124-30-1 26471-62-5, TDI

(for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

IT 3779-63-3DP, **urethane** derivs. with hydroxyacetone  
9040-80-6P 68084-58-2P 70640-42-5P 332421-12-2P  
(prepolymer; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

L52 ANSWER 7 OF 25 HCA COPYRIGHT 2004 ACS on STN

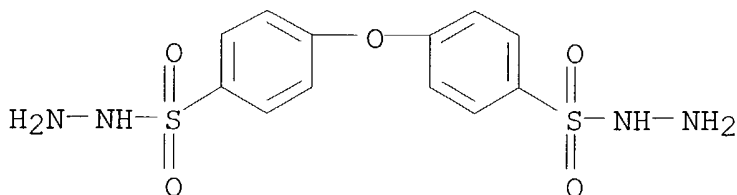
134:229718 Heat-fusible fine **particles** and material for lithographic plate. Taniguchi, Tetsuya (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 2001064425 A2 20010313, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-247292 19990901.

AB The heat-fusible fine **particles** contain a gasifying substance, preferably a sublimation substance, or thermally expandable substance. The material for lithog. plates involves  $\geq 1$  image-forming layer contg. the above **particles** on a support. Alternatively, the lithog. plate material contg. the above image-forming layer, in which hydrophobic imaging area is formed by diffusion of the fused **particles** and the components except the **particles** in the imaging area contain blocked isocyanates releasing isocyanates by thermal decompn. or the material further have a hydrophilic layer contg. the blocked isocyanate. The blocked isocyanate contributes to transformation of the property of the imaging area and/or the hydrophilic layer to hydrophobic. The material provides a lithog. plate by laser irradiation without specific development for computer-to-plate technol. giving printed image without scumming.

IT 80-51-3, p,p'-Oxybis(benzenesulfohydrazide)  
(heat-fusible **particles** contg. sublimation or thermally expandable substance for making lithog. plate for computer-to-plate technol.)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08J009-00

ICS B41N001-14; G03F007-00; G03F007-004; G03F007-027

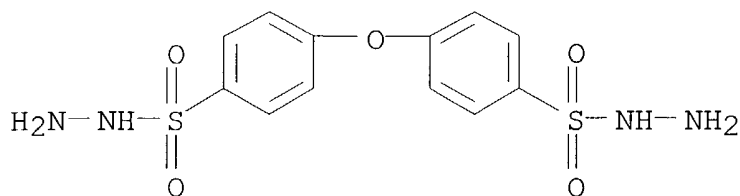
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)

Section cross-reference(s): 38

- ST heat fusible fine **particle** lithog plate; computer to plate  
technol lithog plate; gasifying sublimation substance heat fusible  
**particle**; thermally expandable substance heat fusible  
**particle**; hydrophilicity hydrophobicity transformation  
lithog plate imaging
- IT Lithographic plates  
Sublimation  
(heat-fusible **particles** contg. sublimation or thermally  
expandable substance for making lithog. plate for  
computer-to-plate technol.)
- IT **Polyurethanes**, uses  
(heat-fusible **particles** contg. sublimation or thermally  
expandable substance for making lithog. plate for  
computer-to-plate technol.)
- IT Hydrocarbon waxes, uses  
(microcryst.; heat-fusible **particles** contg. sublimation  
or thermally expandable substance for making lithog. plate for  
computer-to-plate technol.)
- IT **80-51-3**, p,p'-Oxybis(benzenesulfohydrazide) 637-12-7,  
Aluminum stearate 153811-66-6  
(heat-fusible **particles** contg. sublimation or thermally  
expandable substance for making lithog. plate for  
computer-to-plate technol.)
- IT 105030-64-6P, MDI-Z 100 copolymer  
(in imaging area; heat-fusible **particles** contg.  
sublimation or thermally expandable substance for making lithog.  
plate for computer-to-plate technol.)
- L52 ANSWER 8 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 134:194645 Foamable acrylic resin coating compositions. Nishikawa,  
Kinji; Nagashima, Noriyuki; Ohashi, Yutaka; Ochi, Tsutomu (Asahi  
Rubber K. K., Japan; Toyota Motor Corp.). Jpn. Kokai Tokkyo Koho JP  
2001059067 A2 20010306, 6 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1999-235397 19990823.
- AB Title compns., with good storage stability, metal adhesion, and chip  
resistance, contain acrylic resins, blocked isocyanates, and amide  
foamers. A compn. contg. an acrylic resin, a block isocyanate, 2  
phr ADCA, and 9 phr OBSH showed good storage stability at 35°  
for 10 days, adhesion to steel plates, chip resistance, and no  
blister after leaving at 30° and 80% relative humidity for 72  
h and baking at 140° for 20 min. X
- IT **80-51-3**, OBSH  
(amide foamer-contg. acrylic **polyurethane** coatings with  
storage stability and adhesion for automobiles)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX

NAME)



- IC ICM C09D133-04  
ICS B05D007-14; B05D007-24; C09D005-00; C09D007-12; C09D175-16;  
C09K003-10
- CC 42-7 (Coatings, Inks, and Related Products)
- ST acrylic **polyurethane** foam coating automobile; amide foamer  
acrylic **polyurethane** coating
- IT **Polyurethanes**, uses  
(acrylic; amide foamer-contg. acrylic **polyurethane**  
coatings with storage stability and adhesion for automobiles)
- IT Foaming agents  
(amide foamer-contg. acrylic **polyurethane** coatings with  
storage stability and adhesion for automobiles)
- IT Automobiles  
(bodies; amide foamer-contg. acrylic **polyurethane**  
coatings with storage stability and adhesion for automobiles)
- IT **Coating materials**  
(chip-resistant; amide foamer-contg. acrylic **polyurethane**  
coatings with storage stability and adhesion for automobiles)
- IT Acrylic polymers, uses  
(**polyurethane**-; amide foamer-contg. acrylic  
**polyurethane** coatings with storage stability and adhesion  
for automobiles)
- IT **80-51-3**, OBSH 123-77-3, ADCA  
(amide foamer-contg. acrylic **polyurethane** coatings with  
storage stability and adhesion for automobiles)

L52 ANSWER 9 OF 25 HCA COPYRIGHT 2004 ACS on STN  
134:30275 Room-temperature expandable and curable resin compositions,  
adhesives, their cured products, composites, and adhesion method.  
Soma, Hideya; Iwata, Kinpei; Hayashi, Hideki (Denki Kagaku Kogyo K.  
K., Japan). Jpn. Kokai Tokkyo Koho JP 2000351819 A2 20001219, 17  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-164507  
19990610.

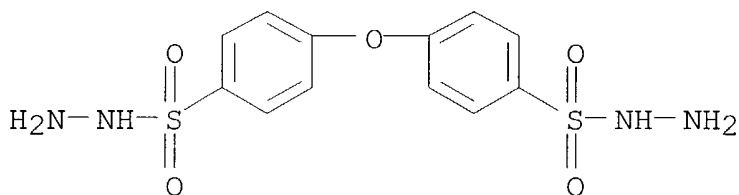
AB The compns., useful as adhesives for metals, contain  
**urethane**-modified (meth)acrylates, sulfonylhydrazides, and  
decompn. promoters. Thus, a 1st agent comprising **urethane**  
acrylate (I; manufd. from IPDI, polybutylene glycol, and  
2-hydroxyethyl acrylate) 5, Me methacrylate (II) 37, 2-hydroxyethyl

methacrylate (III) 29, dicyclopentenylloxyethyl methacrylate (IV) 29, 4,4'-bis(benzenesulfonylhydrazide) 0.5, cumene hydroperoxide 5, acrylonitrile-butadiene-methacrylic acid copolymer elastomer (V) 10, paraffin wax 0.5, and polymn. inhibitor 0.2 part was mixed with a 2nd agent comprising I 5, II 38, III 29, IV 29, V acetylacetonate 0.5, methacryloyloxyethyl acid phosphate 2, V 10, paraffin wax 0.5, and polymn. inhibitor 0.2 part to give an adhesive showing shrinkage on curing 13%, tensile shear adhesive strength (between Fe) 29.3 MPa, peeling strength 3.1 kN/m, and impact adhesive strength 12.9 kJ/m<sup>2</sup>.

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(blowing agent; room-temp. expandable and curable resin compns. for adhesives for metals)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08F290-06

ICS C09D004-00; C09D175-14; C09J004-00; C09J005-08; C09J011-06;  
C09J175-14

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 55

ST adhesive room temp expandable curable sulfonylhydrazide;  
**urethane** acrylate adhesive sulfonylhydrazide blowing agent;  
metal adhesive **urethane** acrylate hydrazine sulfonyl

IT **Adhesives**

(foamable; room-temp. expandable and curable resin compns. for adhesives for metals)

IT **Polyurethanes**, uses

(polyoxyalkylene-, acrylic; room-temp. expandable and curable resin compns. for adhesives for metals)

IT **Adhesives**

(room-temp.-curable; room-temp. expandable and curable resin compns. for adhesives for metals)

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide)

(blowing agent; room-temp. expandable and curable resin compns. for adhesives for metals)

L52 ANSWER 10 OF 25 HCA COPYRIGHT 2004 ACS on STN

131:287563 Elastic cellular sealing materials with good water-shielding

property and their manufacture. Suzuki, Takuro (Achilles Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11291375 A2 19991026 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-119972 19980410.

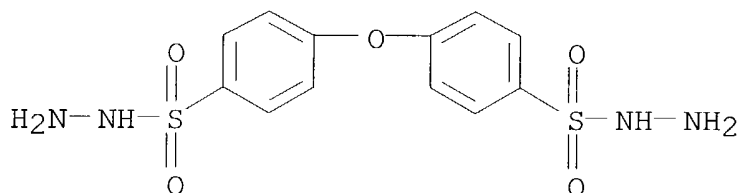
AB Title sealing materials are manufd. by (1) applying solns. contg. OH-terminated polydiene diols, compds. having isocyanate terminal groups activated by pyrolysis, and pyrolysis-type chem. blowing agents on releasing supports, (2) heating for curing and blowing, and (3) forming pressure-sensitive adhesive layers at least on one sides of the resulting elastic foams. Thus, a foam obtained from a compn. contg. Poly bd-R 45HT (OH-terminated polybutadiene rubber), oxybis(benzenesulfonyl hydrazide) (Unifoam AZ 90), and Trixene BI 7983 (blocked hexamethylene **diisocyanate**) showed d. 0.10 g/cm<sup>3</sup>, good water-shielding property, and high weather resistance.

IT 80-51-3, Unifoam AZ 90

(Unifoam AZ 90, blowing agents; manuf. of elastic cellular sealing materials with good water-shielding property)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM B32B005-18

ICS C08J009-06

CC 38-3 (Plastics Fabrication and Uses)

ST elastic cellular sealant polybutadiene **polyurethane**; water shield polybutadiene **polyurethane** cellular sealant

IT Butadiene rubber, uses

(hydroxy-terminated, reaction products with **diisocyanates**; manuf. of elastic cellular sealing materials with good water-shielding property)

IT **Polyurethanes**, uses

(polybutadiene-; manuf. of elastic cellular sealing materials with good water-shielding property)

IT **Adhesives**

(pressure-sensitive; manuf. of elastic cellular sealing materials with good water-shielding property)

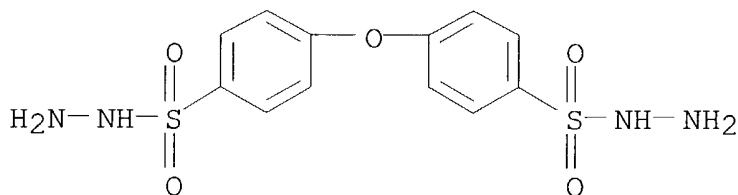
IT 80-51-3, Unifoam AZ 90

(Unifoam AZ 90, blowing agents; manuf. of elastic cellular sealing materials with good water-shielding property)

IT 9003-17-2P

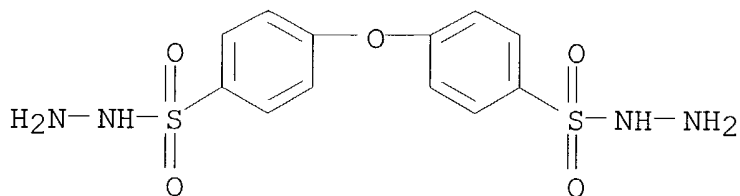


- (butadiene rubber, hydroxy-terminated, reaction products with **diisocyanates**; manuf. of elastic cellular sealing materials with good water-shielding property)
- IT 822-06-ODP, Hexamethylene **diisocyanate**, reaction products with hydroxy-terminated polybutadiene rubber 4098-71-9DP, Isophorone **diisocyanate**, reaction products with hydroxy-terminated polybutadiene rubber 26471-62-5DP, Tolylene **diisocyanate**, reaction products with hydroxy-terminated polybutadiene rubber  
(manuf. of elastic cellular sealing materials with good water-shielding property)
- L52 ANSWER 11 OF 25 HCA COPYRIGHT 2004 ACS on STN  
131:235775 Direct imaging-type waterless lithographic printing plate and its manufacture. Fujimaru, Koichi; Goto, Kazuki; Ikeda, Norimasa (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 11254854 A2 19990921 Heisei, 16 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1998-65234 19980316.
- AB The plate has a substrate successively coated with a heat-sensitive layer contg. (A) a photothermal conversion agent, (B) a blowing agent, and (C) a thermoplastic resin and a silicone rubber layer. The manuf. method involves developing the plate using H2O or a H2O-based soln. The plate shows improved development property by laser beam.
- IT 80-51-3, p,p'-Oxybis(benzenesulfonylhydrazide)  
(blowing agent; manuf. of direct imaging-type waterless lithog. printing plate using laser beam)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM B41N001-14  
ICS G03F007-00
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- IT **Epoxy** resins, uses  
Phenolic resins, uses  
Polyesters, uses  
**Polyurethanes**, uses

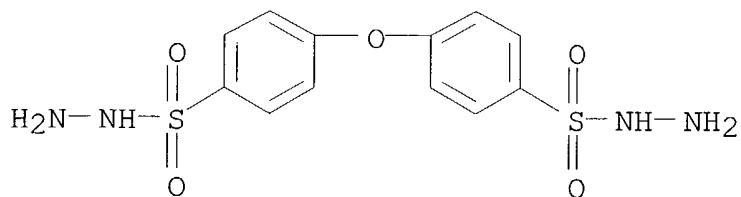
- (manuf. of direct imaging-type waterless lithog. printing plate using laser beam)
- IT 78-67-1, Azobisisobutyronitrile **80-51-3**,  
 p,p'-Oxybis(benzenesulfonylhydrazide) 123-77-3,  
 Diazenedicarboxamide 949-56-4, Dinitropentamethylene tetramine  
 1972-28-7, Diethylazodicarboxylate 193830-04-5, Microsphere F 20  
 (blowing agent; manuf. of direct imaging-type waterless lithog.  
 printing plate using laser beam)
- L52 ANSWER 12 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 131:32715 Acrylic latex foamable, thermal insulating barrier coating for  
 use on paper substrates. Shih, Keith S.; Adur, Ashok M.; Davis,  
 Charles J. (International Paper Company, USA). U.S. US 5911904 A  
 19990615, 13 pp. (English). CODEN: USXXAM. APPLICATION: US  
 1997-991642 19971216.
- AB Title coating is produced from an aq. acrylic-based latex emulsion  
 and an unencapsulated chem. blowing agent, i.e., azodicarbonamide,  
 p,p'-oxybisbenzenesulfonyl hydrazide, or p-toluenesulfonyl hydrazide,  
 for coating paper and paperboard, esp. for coating one or both sides  
 of cupstock to retain heat and to provide moisture and grease  
 resistance. Thus, a compn. (viscosity 3500 cP) comprising Rhoplex P  
 554 100, No.2 clay 10, Cymel 325 4, Celogen OT blowing agent 12,  
 Admiral 3089FS 1.7, and Acrysol RM 2020 1.7 parts was cast (0.04 in)  
 on a 14-point solid bleached sulfate board, dried and foamed at  
 150° for 4 min, giving a blow ratio of 1.5, grease resistance  
 (3M test kit) 12, moisture absorption (5-in Cobb test) 17.3 g/m<sup>2</sup>,  
 and water-vapor transmission rate (ASTM E-96) 3 g/100 in<sup>2</sup>.day,  
 compared with 12, 11.9, and 1.7, resp., without the Celogen OT and  
 3, 137, and 6.1, resp., for the substrate alone.
- IT **80-51-3**, Celogen OT  
 (blowing agent; acrylic latex foamable, thermal insulating  
 barrier coating for use on paper substrates)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
 NAME)



- IC ICM C08H009-06  
 ICS C08H009-10
- NCL 252062000
- CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42, 43

- IT **Polyurethanes**, uses  
(block, thickener; acrylic latex foamable, thermal insulating barrier coating for use on paper substrates)
- IT **Coating materials**  
(moisture- and grease-resistant; acrylic latex foamable, thermal insulating barrier coating for use on paper substrates)
- IT **Polyurethanes**, uses  
(polyether-, thickener; acrylic latex foamable, thermal insulating barrier coating for use on paper substrates)
- IT **80-51-3**, Celogen OT  
(blowing agent; acrylic latex foamable, thermal insulating barrier coating for use on paper substrates)
- L52 ANSWER 13 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 128:116046 Resin compositions expandable and curable at room temperature and foaming of the compositions and cured products therefrom. Touma, Seiji; Ando, Toshihiro (Denki Kagaku Kogyo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 10001557 A2 19980106 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-152447 19960613.
- AB The compns. contain sulfonyl hydrazides and decompn. accelerators and optionally contain radically polymerizable monomers and polymn. initiators. The cured products are useful as cellular construction materials (no data). Thus, 4,4'-oxybis(benzenesulfonyl hydrazide) 0.5, Co octoate 2.5, Me methacrylate 100, cumene hydroperoxide 1.0, and N,N-dimethyl-p-toluidine 1.0 part were mixed at 23° and 60% relative humidity to give a foam showing excellent foaming and curing properties.
- IT **80-51-3**, 4,4'-Oxybis(benzenesulfonyl hydrazide)  
(blowing agent; resin compns. expandable and curable at room temp. and foaming of the compns. for cured plastic foams)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C08J009-06  
ICS C08L101-00
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 57
- IT **Epoxy** resins, uses

**Polyurethanes, uses**

(cellular; sulfonyl hydrazide-contg. resin compns. expandable and curable at room temp. for cured plastic foams)

IT 80-51-3, 4,4'-Oxybis(benzenesulfonyl hydrazide) 1576-35-8,  
p-Toluenesulfonyl hydrazide

(blowing agent; resin compns. expandable and curable at room temp. and foaming of the compns. for cured plastic foams)

IT 9011-14-7P, Methyl methacrylate homopolymer 152656-91-2P,

**Epoxy** Ester 3000M-methyl methacrylate-trimethylolpropane  
trimethacrylate copolymer 201615-40-9P, Polymal 3202L

(cellular; sulfonyl hydrazide-contg. resin compns. expandable and curable at room temp. for cured plastic foams)

IT 201615-31-8, Acry Sirup DG 520G 201615-32-9, E 2800 (**Epoxy**  
resin)

(cellular; sulfonyl hydrazide-contg. resin compns. expandable and curable at room temp. for cured plastic foams)

L52 ANSWER 14 OF 25 HCA COPYRIGHT 2004 ACS on STN

127:177461 Expandable **epoxy** resin sheets for gap fillers.

Kawaguchi, Yasuhiko; Nishama, Yukio (Nitto Denko Corp., Japan).

Jpn. Kokai Tokkyo Koho JP 09176616 A2 19970708 Heisei, 6 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-339570 19951226.

AB The sheets, useful for vibration dampers, sound insulators, thermal  
insulators, and reinforcements, are manufd. by using a compn. contg.  
liq. **epoxy** resins, **epoxy** resin hardeners,  
blowing agents, and crosslinked phenoxy resins prepd. by reacting  
phenoxy resins with **polyisocyanates** contg.  $\geq 2$

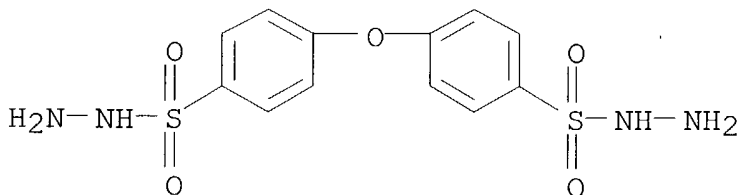
isocyanate groups, wherein the total amt. of **epoxy** resins  
and phenoxy resins is 5-20%, and the ratio of isocyanate groups of  
the **polyisocyanates** to the hydroxy groups of the phenoxy  
resins is 0.05-1.0.

IT 80-51-3, 4,4'-Oxybisbenzenesulfonyl hydrazide

(blowing agents; expandable **epoxy** resin sheets for gap  
fillers)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



IC ICM C09K003-10

ICS C08G059-40; C08J009-06; C08L063-00; C08L075-08; C09J007-00

CC 38-3 (Plastics Fabrication and Uses)  
ST **epoxy** phenoxy resin expandable sheet; foamable  
**epoxy** phenoxy resin sheet; vibration damper **epoxy**  
resin sheet; sound insulator **epoxy** resin sheet; thermal  
insulator **epoxy** resin sheet  
IT Blowing agents  
Sound insulators  
Thermal insulators  
Vibration dampers  
(expandable **epoxy** resin sheets for gap fillers)  
IT **Epoxy** resins, uses  
Phenoxy resins  
Plastic foams  
(expandable **epoxy** resin sheets for gap fillers)  
IT **80-51-3**, 4,4'-Oxybisbenzenesulfonyl hydrazide  
(blowing agents; expandable **epoxy** resin sheets for gap  
fillers)  
IT 504-66-5, Dicyanamide  
(crosslinking agents; expandable **epoxy** resin sheets for  
gap fillers)  
IT 101-68-8, MDI  
(expandable **epoxy** resin sheets for gap fillers)

L52 ANSWER 15 OF 25 HCA COPYRIGHT 2004 ACS on STN

127:66687 One component epoxy resin hot melt systems useful in a powderable form. White, Peter Drummond Boys (Ciba Specialty Chemicals Holding Inc., Switz.; White, Peter Drummond Boys). PCT Int. Appl. WO 9719124 A1 19970529, 29 pp. DESIGNATED STATES: W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1996-GB2821 19961118. PRIORITY: GB 1995-23648 19951118; GB 1995-23650 19951118. ✓

AB Heat curable, thermosettable, epoxy resin systems are made by mixing (A) epoxy resins, or epoxy contg. compds.; (B) an amine solidifying system which yields a product with a Kofler Heat Bank m.p. 55-120° and m.p. stability ≥6 mo at normal workshop temps.; optionally (C) a hardener system which is different from (B) and remains substantially unreacted under the conditions of reaction chosen for (A) and (B); optionally (D) other additives that may be required to modify the phys. properties of the cured or uncured compn.; and optionally (E) an expanding agent of low reactivity. A hot melt was prepd. by mixing (22°) 100 parts liq. bisphenol A epoxy resin with 18 parts aminobenzene, and 4 parts dicyandiamide to give a stable powderable resin after 5 days.

IT **191543-23-4P 191543-26-7P**

(solid from one package epoxy resin hot melt systems useful as powders)

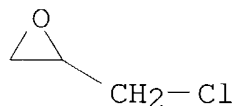
RN 191543-23-4 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide, polymer with benzenamine, (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-sulfonylbis[benzenamine] (9CI)  
(CA INDEX NAME)

CM 1

CRN 106-89-8

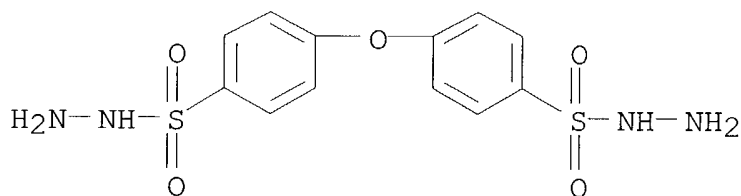
CMF C3 H5 Cl O



CM 2

CRN 80-51-3

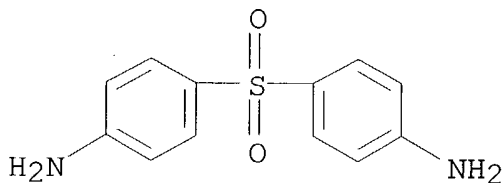
CMF C12 H14 N4 O5 S2



CM 3

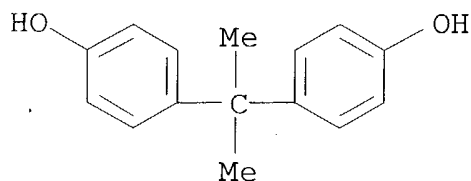
CRN 80-08-0

CMF C12 H12 N2 O2 S



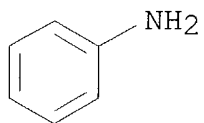
CM 4

CRN 80-05-7  
CMF C15 H16 O2



CM 5

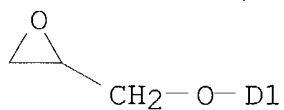
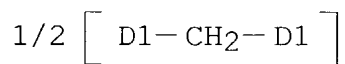
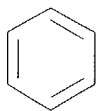
CRN 62-53-3  
CMF C6 H7 N



RN 191543-26-7 HCA  
CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide, polymer with  
benzenamine, 4,4'-methylenebis[benzenamine], 2,2'-  
[methylenebis(phenyleneoxymethylene)]bis[oxirane] and  
2,2'-[(1-methylethylidene)bis[(2,6-dibromo-4,1-  
phenylene)oxymethylene]]bis[oxirane] (9CI) (CA INDEX NAME)

CM 1

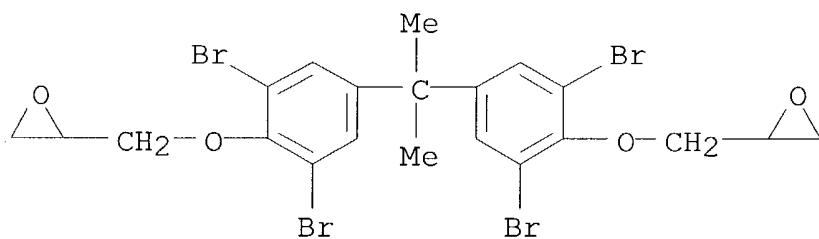
CRN 39817-09-9  
CMF C19 H20 O4  
CCI IDS



CM 2

CRN 3072-84-2

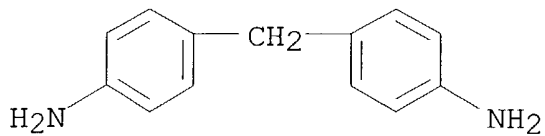
CMF C21 H20 Br4 O4



CM 3

CRN 101-77-9

CMF C13 H14 N2

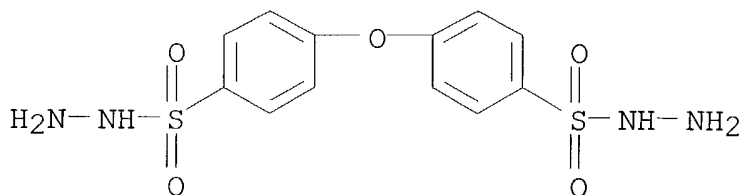


CM 4



CRN 80-51-3

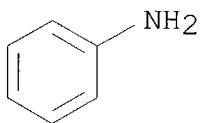
CMF C12 H14 N4 O5 S2



CM 5

CRN 62-53-3

CMF C6 H7 N



IC ICM C08G059-06  
 ICS C08G059-56; C08J009-04; C08L063-00  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT **Adhesives**

**Coating materials**

(hot-melt, powder foamable; solid from one package epoxy resin  
 hot melt systems useful as powders)

IT 191543-17-6P 191543-18-7P 191543-19-8P 191543-20-1P  
 191543-21-2P 191543-22-3P **191543-23-4P** 191543-24-5P  
 191543-25-6P **191543-26-7P**

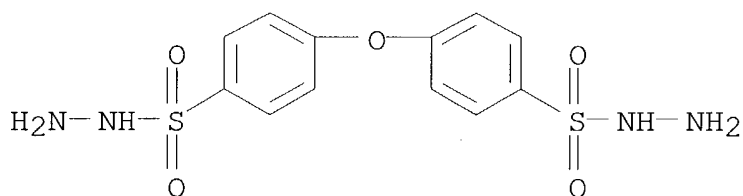
(solid from one package epoxy resin hot melt systems useful as  
 powders)

L52 ANSWER 16 OF 25 HCA COPYRIGHT 2004 ACS on STN

126:333875 Porous polymeric biosupports and their use in biotreatment of  
 aqueous waste streams. Heitkamp, Michael A.; Stow, George C.  
 (Monsanto Co., USA; Heitkamp, Michael A.; Stow, George C.). PCT  
 Int. Appl. WO 9712965 A1 19970410, 42 pp. DESIGNATED STATES: W:  
 AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,  
 EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,  
 SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ,  
 MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, DE, DK, ES, FI,  
 FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.  
 APPLICATION: WO 1996-US16015 19961004. PRIORITY: US 1995-4764

19951004.

- AB Porous biosupports for the support of microorganisms which are used in the biotreatment of an aq. waste stream comprising a polymeric material and, optionally, fiber reinforcement, adsorbent material and/or inorg. filler wherein the biosupport has a sp. gr. greater than the sp. gr. of water and pores of sufficient diam. to enable microorganisms to readily colonize within the pores, a process for prepg. same, and processes for biodegrading an aq. waste stream contg. org. contaminants utilizing the porous biosupports are described.
- IT **80-51-3**, p,p'-Oxybis-(benzenesulfonyl hydrazide)  
(porous polymeric biosupports and their use in biotreatment of aq. waste streams)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C12N011-00  
ICS C12N011-14; C02F003-06; C02F003-12
- CC 60-2 (Waste Treatment and Disposal)
- IT **Polyketones**  
**Polyketones**  
(polyether-; porous polymeric biosupports and their use in biotreatment of aq. waste streams)
- IT Polyethers, biological studies  
Polyethers, biological studies  
(**polyketone**-; porous polymeric biosupports and their use in biotreatment of aq. waste streams)
- IT **80-51-3**, p,p'-Oxybis-(benzenesulfonyl hydrazide) 123-77-3,  
Diazenedicarboxamide 144-55-8, Sodium bicarbonate, uses  
10105-42-7 10396-10-8, p-Toluene sulfonyl semicarbazide  
18039-42-4, 5-Phenyltetrazole  
(porous polymeric biosupports and their use in biotreatment of aq. waste streams)
- L52 ANSWER 17 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 126:213054 Double-stick adhesive sheets with a polymer foam substrate.  
Lindner, Edgar; Herrmann, Fritz (Lohmann G.m.b.H. & Co K.-G., Germany). Ger. Offen. DE 19527922 A1 19970130, 3 pp. (German).  
CODEN: GWXXBX. APPLICATION: DE 1995-19527922 19950729.

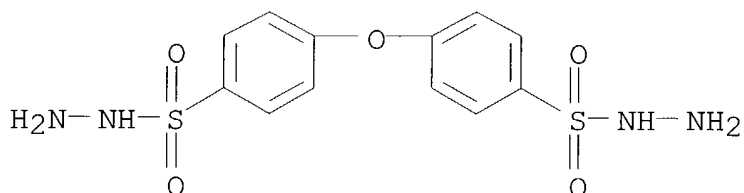
AB The foam substrate, preferably a **polyurethane** foam, contains elastic **microparticles** for improved compressibility. For example, a **polyurethane** formulation contained Impranil HS 62 1000, Imprafix HS-C 62, pigment 40, Levacast Fluid SN 10, Acronal L 700 5, Tinuvin 765 5, Celogen OT 20, Arbocel 600/30 30, and reclaimed rubber **particles** 150 parts. The resulting adhesives are useful in printing applications.

IT **80-51-3**

(double-stick adhesive sheets with a polymer foam substrate)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09J007-02

ICS C09J133-04; C09J175-04; C09J183-04; C09J121-00; C08J009-00; C08L075-04; C08L021-00; B41F027-00; B41N006-00

ICA C08J009-35

CC 38-3 (Plastics Fabrication and Uses)

ST **polyurethane** foam substrate adhesive sheet; rubber **particle** filler **polyurethane** foam

IT **Polyurethanes**, uses

(cellular; double-stick adhesive sheets with a polymer foam substrate)

IT **80-51-3**

(double-stick adhesive sheets with a polymer foam substrate)

L52 ANSWER 18 OF 25 HCA COPYRIGHT 2004 ACS on STN

126:187468 Manufacture of **powder** coating compositions by using porous **pellets** containing blowing agents. Masuda, Sho; Nagao, Tetsuo; Kobayashi, Shoji (Dai Nippon Toryo KK, Japan). Jpn. Kokai Tokkyo Koho JP 09003364 A2 19970107 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-154649 19950621.

AB Title compns. with small **particle** size are manufd. by (a) melt kneading compns. contg. 100 parts resins and 0.01-5.0 parts blowing agents and (b) cooling to give porous **pellets**, which are pulverized. Thus, a mixt. of U-Pica Coat GV 110 (thermosetting polyester) 50, B 1530 ( $\epsilon$ -caprolactam-blocked isophorone **diisocyanate**) 10, Modaflow **Powder** III (acrylic oligomer) 1, Neocellborn 5000 (blowing agent) 2, and TiO<sub>2</sub> 35 parts was kneaded, **pelletized**, and pulverized to give a

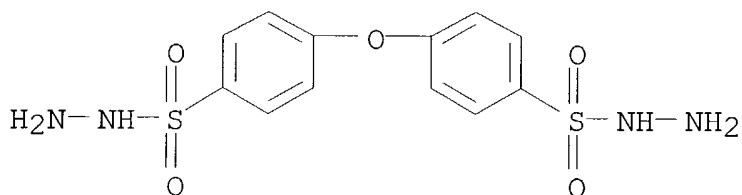
compn. (**particle** distribution 37  $\mu\text{m}$ , 50% av. **particle** size), which was applied on a substrate by electrostatic spraying and dried at 180° for 20 min to give a test piece showing good appearance.

IT 80-51-3

(Neocellborn N 5000, blowing agents; manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09D005-03

ICS C09D005-03

CC 42-10 (Coatings, Inks, and Related Products)

ST powd coating reduced **particle** size; porous **pellet** blowing agent; thermosetting polyester powd coating; **polyisocyanate** crosslinked polyester powd coating

IT Blowing agents

(manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT Polyesters, uses

(manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT **Epoxy** resins, uses

(manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT **Coating materials**

(**powder**; manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT 80-51-3

(Neocellborn N 5000, blowing agents; manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT 101-25-7, Cellular GX 82446-85-3, Vinyfor AZ-S

(blowing agents; manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT 187034-51-1P

(coating; manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

IT 107375-83-7P, Adipic dihydrazide-bisphenol A-epichlorohydrin copolymer 187034-52-2P

(manuf. of powd. coatings with reduced **particle** size by pulverizing porous **pellets** contg. blowing agents)

L52 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN

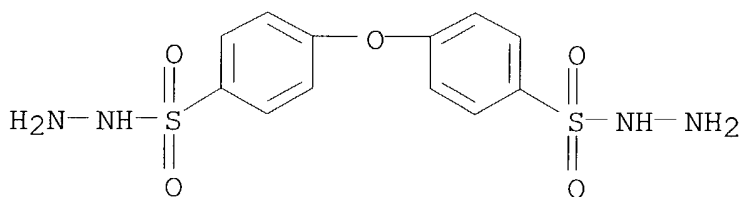
122:136305 Easily peelable coating materials. Terauchi, Kenichi (Nippon Paint Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06246226 A2 19940906 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-61197 19930224.

AB Substrates are undercoated with thermoplastic resin binders contg. blowing agents decomp. at temps. higher than the drying temp. of the peelable coatings and coated with peelable coating materials. Thus, steel was undercoated with an alkyd resin contg. nitrocellulose and Neocellborn N 1000S, coated with Supercoat 300HQ White (a polyester), dried, heated at 180° to foam the undercoating and form blisters on the topcoating which became peelable.

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(blowing agents; undercoatings contg. blowing agents for peelable topcoating materials)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM B05D005-00

ICS B05D001-32; B05D007-24; C08J007-04; C08J011-04

ICA B32B007-06

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

IT **Coating materials**

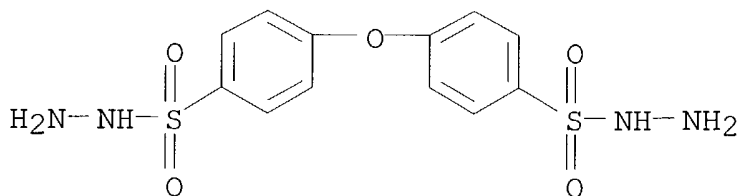
Parting materials

(undercoatings contg. blowing agents for peelable topcoating materials)

IT **Epoxy** resins, uses

(esters, reaction products with caprolactam-modified **diisocyanates**; undercoatings contg. blowing agents for

- peelable topcoating materials)
- IT 80-51-3, 4,4'-Oxybis(benzenesulfonylhydrazide) 123-77-3,  
Azodicarbonamide  
(blowing agents; undercoatings contg. blowing agents for peelable  
topcoating materials)
- IT 105-60-2D, Caprolactam, -modified **diisocyanates**, reaction  
products with **epoxy** esters  
(undercoatings contg. blowing agents for peelable topcoating  
materials)
- L52 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 116:135528 Performance-oriented packaging standards; changes to  
classification, hazard communication, packaging and handling  
requirements based on UN standards and agency initiative. (United  
States Dept. of Transportation, Washington, DC, 20590-0001, USA).  
Federal Register, 55(246), 52402-729 (English) 21 Dec 1990. CODEN:  
FEREAC. ISSN: 0097-6326.
- AB The hazardous materials regulations under the Federal Hazardous  
Materials Transportation Act are revised based on the United Nations  
recommendations on the transport of dangerous goods. The  
regulations cover the classification of materials, packaging  
requirements, and package marking, labeling, and shipping  
documentation, as well as transportation modes and handling, and  
incident reporting. Performance-oriented stds. are adopted for  
packaging for bulk and nonbulk transportation, and SI units of  
measurement generally replace US customary units. Hazardous  
material descriptions and proper shipping names are tabulated  
together with hazard class, identification nos., packing group,  
label required, special provisions, packaging authorizations,  
quantity limitations, and vessel stowage requirements.
- IT 80-51-3, Diphenyloxide-4,4'-disulfohydrazide  
(packaging and transport of, stds. for)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



X

- CC 59-6 (Air Pollution and Industrial Hygiene)
- IT **Adhesives**  
Alcoholic beverages  
Ammunition

Antifreeze substances  
Bactericides, Disinfectants, and Antiseptics  
Batteries, primary  
Blasting gelatin  
Bombs (explosives)  
Carbon paper  
Cartridges  
Castor bean

**Coating materials**

Corrosive substances  
Cotton  
Creosote  
Detonators  
Dyes  
Dynamite  
Electric fuses  
Exothermic materials  
Explosives  
Flavoring materials  
Flue **dust**  
Fuel cells  
Fuel oil  
Fuels, diesel  
Fuels, jet aircraft  
Fusel oil  
Fuses, explosives  
Gas oils  
Hay  
Herbicides  
Igniters and Lighters  
Insecticides  
Lacrimators  
Magnetic substances  
Matches  
Oxidizing agents  
Perfumes  
Pesticides  
Petroleum products  
Pharmaceuticals  
Photoelectric devices  
Poisons  
Primers, explosive  
Projectiles  
Pyrophoric substances  
Pyrotechnic compositions  
Radioactive substances  
Refrigerating apparatus  
Rockets

Shale oils  
 Solvent naphtha  
 Sprays  
 Straw  
 Textiles  
 Thermoelectric devices  
 Torpedoes (weapons)  
 Turpentine  
 Wood preservatives  
 (packaging and transport of, stds. for)

IT Propellants

(black **powder**, packaging and transport of, stds. for)

IT **Coating materials**

(paints, packaging and transport of, stds. for)

IT 50-00-0, Formaldehyde, miscellaneous 54-11-5, Nicotine 54-11-5D, Nicotine, compds. 55-63-0, Nitroglycerin 55-68-5, Phenylmercuric nitrate 56-18-8, 3,3'-Iminodipropylamine 56-23-5, miscellaneous 56-38-2, Parathion 57-06-7, Allyl isothiocyanate 57-14-7 57-24-9D, Strychnine, salts 60-00-4, EDTA, miscellaneous 60-24-2 60-29-7, Diethyl ether, miscellaneous 60-34-4, Methylhydrazine 60-57-1, Dieldrin 62-38-4, Phenylmercuric acetate 62-53-3, Aniline, miscellaneous 62-74-8, Sodium fluoroacetate 64-17-5, Ethanol, miscellaneous 64-18-6, Formic acid, miscellaneous 64-18-6D, Formic acid, chloro derivs. 64-19-7, Acetic acid, miscellaneous 64-67-5, Diethyl sulfate 66-25-1, Hexaldehyde 67-56-1, Methanol, miscellaneous 67-63-0, Isopropanol, miscellaneous 67-64-1, Acetone, miscellaneous 67-66-3, Chloroform, miscellaneous 68-11-1, Thioglycolic acid, miscellaneous 68-12-2, N,N-Dimethylformamide, miscellaneous 70-11-1, Phenacyl bromide 70-30-4, Hexachlorophene 71-23-8, n-Propanol, miscellaneous 71-41-0, 1-Pentanol, miscellaneous 71-43-2, Benzene, miscellaneous 71-55-6, 1,1,1-Trichloroethane 74-82-8, Methane, miscellaneous 74-83-9, miscellaneous 74-84-0, Ethane, miscellaneous 74-85-1, Ethylene, miscellaneous 74-86-2, Acetylene, miscellaneous 74-87-3, Methyl chloride, miscellaneous 74-88-4, Methyl iodide, miscellaneous 74-89-5, Methylamine, miscellaneous 74-90-8, Hydrogen cyanide, miscellaneous 74-93-1, Methyl mercaptan, miscellaneous 74-95-3, Dibromomethane 74-96-4, Ethyl bromide 74-97-5, Bromochloromethane 74-98-6, Propane, miscellaneous 75-00-3, Ethyl chloride 75-01-4, miscellaneous 75-02-5, Vinyl fluoride 75-04-7, Ethylamine, miscellaneous 75-05-8, Methyl cyanide, miscellaneous 75-07-0, Acetaldehyde, miscellaneous 75-08-1, Ethyl mercaptan 75-09-2, Dichloromethane, miscellaneous 75-15-0, Carbon disulfide, miscellaneous 75-16-1, Methyl magnesium bromide 75-18-3, Dimethyl sulfide 75-19-4, Cyclopropane 75-20-7, Calcium carbide 75-21-8 75-21-8, Ethylene oxide, miscellaneous 75-25-2, Bromoform 75-26-3, 2-Bromopropane 75-28-5, Isobutane 75-28-5D, Isobutane, mixts.



75-29-6, 2-Chloropropane 75-31-0, Isopropylamine, miscellaneous  
75-33-2, Isopropyl mercaptan 75-34-3, 1,1-Dichloroethane  
75-35-4, miscellaneous 75-36-5, Acetyl chloride 75-38-7,  
1,1-Difluoroethylene 75-39-8, Acetaldehyde ammonia 75-43-4,  
Dichloromonofluoromethane 75-44-5, Phosgene 75-45-6,  
Chlorodifluoromethane 75-46-7, Trifluoromethane 75-50-3,  
Trimethylamine, miscellaneous 75-52-5, Nitromethane, miscellaneous  
75-54-7, Methyldichlorosilane 75-55-8, Propylenimine 75-56-9,  
Propylene oxide, miscellaneous 75-59-2, Tetramethylammonium  
hydroxide 75-60-5, Cacodylic acid 75-61-6,  
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75-72-9, Chlorotrifluoromethane 75-73-0, Tetrafluoromethane  
75-76-3, Tetramethylsilane 75-77-4, Trimethylchlorosilane,  
miscellaneous 75-78-5, Dimethyldichlorosilane 75-79-6,  
Methyltrichlorosilane 75-83-2 75-86-5, Acetone cyanohydrin  
75-87-6, Chloral 75-91-2, tert-Butyl hydroperoxide 75-94-5,  
Vinyltrichlorosilane 76-01-7, Pentachloroethane 76-02-8,  
Trichloroacetyl chloride 76-03-9, properties 76-05-1,  
Trifluoroacetic acid, miscellaneous 76-06-2, Chloropicrin  
76-06-2D, Chloropicrin, mixts. 76-15-3 76-16-4, Hexafluoroethane  
76-19-7, Octafluoropropane 76-22-2, Camphor 77-47-4,  
Hexachlorocyclopentadiene 77-73-6 77-78-1, Dimethyl sulfate  
78-00-2, Tetraethyl lead 78-10-4, Tetraethyl silicate 78-62-6,  
Dimethyldiethoxysilane 78-67-1, Azodiisobutyronitrile 78-76-2,  
2-Bromobutane 78-78-4, Isopentane 78-79-5, Isoprene,  
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78-83-1, Isobutanol, miscellaneous 78-84-2, Isobutyraldehyde  
78-85-3, Methacrylaldehyde 78-87-5, Propylene dichloride  
78-89-7, Propylene chlorohydrin 78-90-0, 1,2-Propylenediamine  
78-93-3, 2-Butanone, miscellaneous 78-94-4, Methyl vinyl ketone,  
miscellaneous 78-95-5, Monochloroacetone 79-01-6,  
Trichloroethylene, miscellaneous 79-03-8, Propionyl chloride  
79-04-9, Chloroacetyl chloride 79-06-1, Acrylamide, miscellaneous  
79-08-3, Bromoacetic acid 79-09-4, Propionic acid, miscellaneous  
79-10-7, 2-Propenoic acid, miscellaneous 79-11-8, Chloroacetic  
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Benzene sulfohydrazide 80-47-7, p-Menthane hydroperoxide  
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 $\alpha$ -Pinene 80-62-6 81-15-2 82-71-3 85-44-9,  
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Hexachlorobutadiene 87-90-1 88-17-5, 2-Trifluoromethylaniline  
88-72-2, o-Nitrotoluene 88-73-3, o-Chloronitrobenzene 88-74-4,

o-Nitroaniline 88-75-5, o-Nitrophenol 88-89-1 89-58-7,  
 p-Nitroxyline 91-17-8, Decahydronaphthalene 91-20-3,  
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 $\beta$ -Naphthylamine 91-66-7, N,N-Diethylaniline 92-52-4D,  
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 Methyl benzoate 94-17-7, p-Chlorobenzoyl peroxide 94-36-0,  
 Benzoyl peroxide, miscellaneous 95-48-7, miscellaneous 95-50-1,  
 o-Dichlorobenzene 95-54-5, o-Phenylenediamine, miscellaneous  
 95-55-6, o-Aminophenol 95-80-7 95-85-2, 2-Amino-4-chlorophenol  
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 bromoacetate 96-33-3 96-34-4, Methyl chloroacetate 96-37-7,  
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 98-01-1, Furfural, miscellaneous 98-07-7, Benzotrichloride  
 98-08-8, Benzotrifluoride 98-09-9, Benzene sulfonyl chloride  
 98-12-4, Cyclohexyltrichlorosilane 98-13-5, Phenyltrichlorosilane  
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 98-95-3, Nitrobenzene, miscellaneous 99-08-1, m-Nitrotoluene  
 99-09-2, m-Nitroaniline 99-35-4, Trinitrobenzene 99-99-0,  
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 1313-82-2, Sodium sulfide, miscellaneous 1314-18-7, Strontium  
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 1314-34-7, Vanadium trioxide 1314-56-3, Phosphorus pentoxide,  
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 1314-85-8, Phosphorus sesquisulfide 1319-77-3, Cresylic acid  
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 1330-78-5, Tricresyl phosphate 1331-22-2, Methyl cyclohexanone  
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1344-67-8, Copper chloride 1498-40-4, Ethyl phosphonous dichloride  
1498-51-7, Ethyl phosphorodichloridate 1569-69-3, Cyclohexyl  
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1623-24-1, Isopropyl acid phosphate 1634-04-4, Methyl-tert-butyl  
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Isobutyl isocyanate 1885-14-9, Phenylchloroformate 1947-27-9,  
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peroxydicarbonate 2155-71-7 2167-23-9, 2,2-Di(tert-  
butylperoxy)butane 2217-06-3, Dipicryl sulfide 2243-94-9,  
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dichloroisocyanurate 2294-47-5, p-Diazidobenzene 2312-76-7  
2338-12-7, 5-Nitrobenzotriazole 2487-90-3, Trimethoxysilane  
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2549-51-1, Vinyl chloroacetate 2551-62-4, Sulfur hexafluoride  
2567-83-1, Tetraethylammonium perchlorate 2657-00-3, Sodium  
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3087-37-4, Tetrapropylorthotitanate 3129-90-6, Isothiocyanic acid  
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3282-30-2, Trimethylacetyl chloride 3497-00-5, Phenyl phosphorus  
thiodichloride 3689-24-5 3724-65-0, Crotonic acid 3811-04-9,  
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miscellaneous 7440-41-7D, Beryllium, compds. 7440-43-9D,  
Cadmium, compds. 7440-44-0, Carbon, miscellaneous 7440-45-1,  
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7440-55-3, Gallium, miscellaneous 7440-58-6, Hafnium,  
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Uranium, miscellaneous 7440-63-3, Xenon, miscellaneous  
7440-66-6, Zinc, miscellaneous 7440-67-7, Zirconium, miscellaneous  
7440-70-2, Calcium, miscellaneous 7440-70-2D, Calcium, alloys  
7446-09-5, Sulfur dioxide, miscellaneous 7446-11-9, Sulfur  
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7488-56-4, Selenium disulfide 7521-80-4, Butyltrichlorosilane  
7550-45-0, Titanium tetrachloride, miscellaneous 7570-26-5,  
1,2-Dinitroethane 7572-29-4, Dichloroacetylene 7578-36-1  
7580-67-8, Lithium hydride 7601-89-0, Sodium perchlorate

7601-90-3, Perchloric acid, miscellaneous 7616-94-6, Perchloryl fluoride 7631-89-2, Sodium arsenate 7631-99-4, Sodium nitrate, miscellaneous 7632-00-0, Sodium nitrite 7632-51-1, Vanadium tetrachloride 7637-07-2, Boron trifluoride, miscellaneous 7645-25-2, Lead arsenate 7646-69-7, Sodium hydride 7646-78-8, Stannic chloride, miscellaneous 7646-85-7, Zinc chloride, miscellaneous 7646-93-7, Potassium hydrogen sulfate 7647-01-0, Hydrogen chloride, miscellaneous 7647-18-9, Antimony pentachloride 7647-19-0, Phosphorus pentafluoride 7664-38-2, Phosphoric acid, miscellaneous 7664-38-2D, Phosphoric acid, esters 7664-39-3, Hydrogen fluoride, miscellaneous 7664-41-7, Ammonia, miscellaneous 7664-93-9, Sulfuric acid, miscellaneous 7681-38-1, Sodium hydrogen sulfate 7681-49-4, Sodium fluoride, miscellaneous 7681-52-9, Sodium hypochlorite 7697-37-2, Nitric acid, miscellaneous 7704-34-9, Sulfur, miscellaneous 7705-07-9D, Titanium trichloride, mixts. 7705-08-0, Ferric chloride, miscellaneous 7718-98-1, Vanadium trichloride 7719-09-7, Thionyl chloride 7719-12-2, Phosphorus trichloride 7722-64-7, Potassium permanganate (packaging and transport of, stds. for)

IT 13973-88-1, Chlorine azide 13987-01-4, Tripropylene 14014-86-9 14019-91-1, Calcium selenate 14293-73-3 14448-38-5, Hyponitrous acid 14519-07-4, Zinc bromate 14519-17-6, Magnesium bromate 14546-44-2, Hydrazine azide 14567-73-8, Tremolite 14644-61-2, Zirconium sulfate 14666-78-5, Diethylperoxydicarbonate 14674-72-7, Calcium chlorite 14696-82-3, Iodine azide (I(N3)) 14977-61-8 15195-06-9 15245-44-0, Lead trinitroresorcinate 15347-57-6, Lead acetate 15457-98-4 15512-36-4, Calcium dithionite 15545-97-8, 2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitile) 15598-34-2, Pyridine perchlorate 15718-71-5, Ethylenediamine diperchlorate 15825-70-4, Mannitol hexanitrate 15875-44-2, Methylamine perchlorate 16215-49-9, Di-n-butyl peroxydicarbonate 16229-43-9, Vanadyl sulfate 16339-86-9 16646-35-8 16721-80-5, Sodium hydrosulfide 16753-36-9, Copper acetylde 16853-85-3, Lithium aluminum hydride 16871-71-9, Zinc fluorosilicate 16871-90-2, Potassium fluorosilicate 16872-11-0 16893-85-9, Sodium fluorosilicate 16901-76-1, Thallium nitrate 16919-19-0, Ammonium fluorosilicate 16940-66-2, Sodium borohydride 16940-81-1, Hexafluorophosphoric acid 16941-12-1, Chloroplatinic acid 16949-15-8, Lithium borohydride 16949-65-8, Magnesium fluorosilicate 16961-83-4, Fluorosilicic acid 16962-07-5, Aluminum borohydride 17014-71-0, Potassium peroxide 17068-78-9, Anthophyllite 17462-58-7, sec-Butyl chloroformate 17639-93-9, Methyl-2-chloropropionate 17687-37-5, Urea nitrate 17702-41-9, Decaborane 17861-62-0 18130-44-4, Titanium sulfate 18414-36-3 18810-58-7, Barium azide 19159-68-3 19287-45-7, Diborane 19287-45-7D, Diborane, mixts. 19624-22-7, Pentaborane 20062-22-0 20236-55-9, Barium styphnate 20600-96-8 20816-12-0, Osmium tetroxide 20820-44-4 20859-73-8,

Aluminum phosphide 21351-79-1, Cesium hydroxide (Cs(OH))  
21569-01-7 21723-86-4 21985-87-5, Pentanitroaniline  
22128-62-7, Chloromethylchloroformate 22750-93-2, Ethyl  
perchlorate 22751-24-2 22826-61-5 23414-72-4, Zinc  
permanganate 23745-86-0, Potassium fluoroacetate 24167-76-8,  
Sodium phosphide 24468-13-1, 2-Ethylhexylchloroformate  
24884-69-3 25013-15-4, Vinyl toluene 25109-57-3 25134-21-8  
25136-55-4, Dimethyldioxane 25154-42-1, Chlorobutane 25154-54-5,  
Dinitrobenzene 25155-15-1, Cymene 25167-20-8, Tetrabromoethane  
25167-67-3, Butylene 25167-70-8, Diisobutylene 25167-80-0,  
Chlorophenol 25168-05-2, Chlorotoluene 25265-68-3,  
Methyltetrahydrofuran 25321-14-6, Dinitrotoluene 25322-01-4,  
Nitropropane 25322-20-7, Tetrachloroethane 25323-30-2,  
Dichloroethylene 25339-56-4, Heptene 25340-17-4, Diethylbenzene  
25377-72-4, n-Amylene 25496-08-6, Fluorotoluene 25497-28-3,  
Difluoroethane 25497-29-4, Chlorodifluoroethane 25513-64-8  
25550-53-2 25550-55-4, Dinitrosobenzene 25550-58-7,  
Dinitrophenol 25550-58-7D, Dinitrophenol, salts 25567-67-3,  
Chlorodinitrobenzene 25567-68-4, Chloronitrotoluene 25639-42-3,  
Methylcyclohexanol 25721-38-4, Lead picrate 25917-35-5, Hexanol  
26134-62-3, Lithium nitride 26140-60-3D, Terphenyl, halo derivs.  
26249-12-7, Dibromobenzene 26471-56-7, Dinitroaniline  
26471-62-5, Toluene **diisocyanate** 26506-47-8, Copper  
chlorate 26571-79-9 26618-70-2 26628-22-8, Sodium azide  
26638-19-7, Dichloropropane 26645-10-3 26760-64-5, Isopentene  
26762-93-6 26914-02-3, Iodopropane 26915-12-8, Toluidine  
26952-23-8, Dichloropropene 26952-42-1, Trinitroaniline  
27134-26-5, Chloroaniline 27134-27-6, Dichloroaniline  
27137-85-5, Dichlorophenyltrichlorosilane 27152-57-4 27176-87-0,  
Dodecylbenzenesulfonic acid 27195-67-1, Dimethylcyclohexane  
27215-10-7 27236-46-0, Isohexene 27254-36-0, Nitronaphthalene  
27458-20-4, Butyltoluene 27978-54-7, Hydrazine perchlorate  
27986-95-4 27987-06-0, Trifluoroethane 28260-61-9,  
Trinitrochlorobenzene 28300-74-5, Antimony potassium tartrate  
28324-52-9, Pinane hydroperoxide 28479-22-3 28653-16-9  
28679-16-5, **Trimethylhexamethylenediisocyanate**  
28805-86-9, Butylphenol 29191-52-4, Anisidine 29306-57-8  
29790-52-1, Nicotine salicylate 29903-04-6 29965-97-7,  
Cyclooctadiene 30236-29-4, Sucrose octanitrate 30525-89-4,  
Paraformaldehyde 30553-04-9, Naphthylthiourea 30586-10-8,  
Dichloropentane 30586-18-6, Pentamethylheptane 31058-64-7  
31212-28-9, Nitrobenzenesulfonic acid 33453-96-2 33864-17-4  
34216-34-7, Trimethylcyclohexylamine 35296-72-1, Butanol  
35860-50-5, Trinitrobenzoic acid 35860-51-6, Dinitroresorcinol  
35884-77-6, Xylyl bromide 36472-34-1, Chloropropene 37020-93-2,  
Mercury cyanide (Hg(CN)) 37187-22-7, Acetyl acetone peroxide  
37206-20-5, Methyl isobutyl ketone peroxide 37273-91-9,  
Metaldehyde 37320-91-5, Mercury iodide 37368-10-8, Aluminum

vanadium oxide 38139-71-8, Bromide chloride 38232-63-2,  
Mercurous azide 38483-28-2, Methylene glycol dinitrate  
39377-49-6, Copper cyanide 39377-56-5, Lead sulfide 39404-03-0,  
Magnesium silicide 39409-64-8, TVOPA 39432-81-0 39455-80-6,  
Ammonium sodium vanadium oxide 39990-99-3, Lithium acetylide  
ethylenediamine complex 40058-87-5, Isopropyl-2-chloropropionate  
41195-19-1 41587-36-4, Chloronitroaniline 42296-74-2, Hexadiene  
43133-95-5, Methylpentane 50815-73-1 50874-93-6 51006-59-8  
51023-22-4, Trichlorobutene 51064-12-1 51312-23-3, Mercury  
bromide 51317-24-9, Lead nitroresorcinat 51325-42-9, Copper  
selenite 51845-86-4, Ethyl borate 52181-51-8 53014-37-2,  
Tetranitroaniline 53408-91-6, Mercury thiocyanate 53422-49-4  
53569-62-3 53839-08-0 53906-68-6 54141-09-2, 1,4,-Butynediol  
54413-15-9, Tritonal 54727-89-8 54958-71-3 55510-04-8,  
Dinitroglycoluril 55810-17-8 56929-36-3 56960-91-9  
57607-37-1, Octolite 58164-88-8, Antimony lactate 58499-37-9  
58933-55-4 59753-21-8 59917-23-6 60168-33-4 60616-74-2,  
Magnesium hydride 60869-68-3 60999-18-0 61061-91-4  
61878-56-6 63085-06-3 63283-80-7, Dichloroisopropyl ether  
63597-41-1, Octadiene 63885-01-8 63907-41-5 63937-14-4  
63938-10-3, Chlorotetrafluoroethane 63988-31-8 64173-96-2  
64973-06-4, Arsenic bromide 66634-68-2 67632-66-0 68833-55-6,  
Mercury acetylide (Hg(C2H)) 68848-64-6 68975-47-3, Isoheptene  
69523-06-4, Ferrocium  
(packaging and transport of, stds. for)

L52 ANSWER 21 OF 25 HCA COPYRIGHT 2004 ACS on STN

116:8520 Heat-expandable beads as burning rate accelerators. Sayles,  
David C. (United States Dept. of the Army, USA). U.S. US 5053088 A  
19911001, 4 pp. (English). CODEN: USXXAM. APPLICATION: US  
1982-375892 19820505.

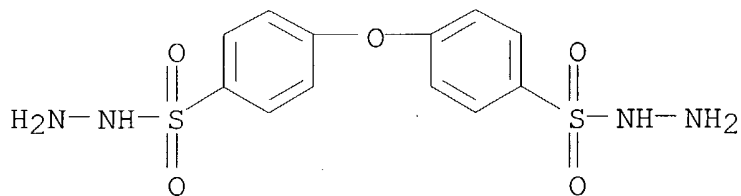
AB Burning rate of solid propellants are mech. enhanced by the  
incorporation of heat-expandable beads, e.g., styrene beads, into  
the propellant mixt. The flame front reaches an individual bead and  
the bead which contains an expanding or blowing agent expands to  
several times its vol. and ruptures. Bead expansion or rupture  
causes a disruption of the propellant surface, and the flame can  
penetrate into the propellant. This penetration results in a major  
increase in burning rate.

IT 80-51-3, Celogen OT

(blowing agent, propellant contg., heat-expanded beads in, for  
enhancement of burning rate)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



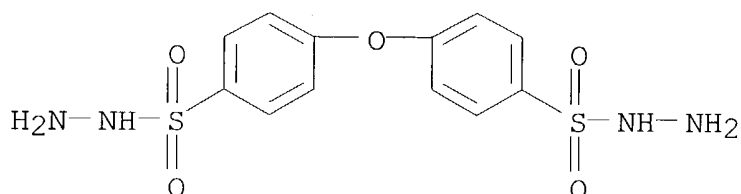
- IC ICM C06B045-00  
 NCL 149021000  
 CC 50-1 (Propellants and Explosives)  
 IT **80-51-3**, Celogen OT 109-66-0, Pentane, uses  
 (blowing agent, propellant contg., heat-expanded beads in, for  
 enhancement of burning rate)  
 IT 55-63-0, Nitroglycerin 57-39-6D, reaction product with  
 12-hydroxystearic acid 102-76-1, Triacetin 106-14-9D,  
 12-Hydroxystearic acid, reaction product with tris[2-  
 methylaziridinyl] phosphine 108-46-3, Resorcinol, uses 119-75-5,  
 2-Nitrodiphenylamine 603-33-8, Triphenylbismuthine 822-06-0  
 4098-71-9, Isophorone **diisocyanate** 7429-90-5, Aluminum,  
 uses 7790-98-9, Ammonium perchlorate 9003-17-2D, Polybutadiene,  
 hydroxyl-terminated 9004-70-0, Nitrocellulose 20740-05-0  
 62906-37-0 88249-87-0, BA 114  
 (powders, propellants contg., heat-expandable beads in,  
 for enhancement of burning rate)  
 L52 ANSWER 22 OF 25 HCA COPYRIGHT 2004 ACS on STN  
 113:135230 Gas-generated expandable beads as burning rate accelerators.  
 Sayles, David C. (United States Dept. of the Army, USA). U.S. US  
 4941931 A 19900717, 4 pp. (English). CODEN: USXXAM. APPLICATION:  
 US 1983-528198 19830826.  
 AB Gas-generated-expandable beads comprised of a blowing agent selected  
 from 4-toluenesulfonyl hydrazide and 4,4'-oxybis(benzenesulfonyl  
 hydrazide) which is coated with bead forming material consisting of  
 OH-terminated polybutadiene prepolymer .apprx.95, trimethylolpropane  
 .apprx.5, and isophorone **diisocyanate** .apprx.6 part are  
 phys. dispersed in composite propellant compn. The propellant  
 compn. consists of Al **powder** 12, NH4ClO4 (70  $\mu$ m) 73,  
 n-hexylcarborane 6, OH-terminated polybutadiene prepolymer 6,  
 trimethylolpropane 0.06, wetting agent 0.3, and isophorone  
**diisocyanate** 0.70 wt.%. The burning rate of the propellants  
 is improved with using only small amt. of carborane. An increase in  
 propellant d. and an improvement in mech. properties are achieved as  
 a result of the beads being chem. crosslinked during propellant  
 curing after being first phys. dispersed in the propellant compn.  
 during mixing.  
 IT **80-51-3**, Celogen OT



(blowing agent, expandable beads contg., in propellants, with improved burning rate)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C06B045-10

NCL 149019200

CC 50-1 (Propellants and Explosives)

IT **80-51-3**, Celogen OT 1576-35-8, 4-Toluenesulfonyl hydrazide (blowing agent, expandable beads contg., in propellants, with improved burning rate)

L52 ANSWER 23 OF 25 HCA COPYRIGHT 2004 ACS on STN

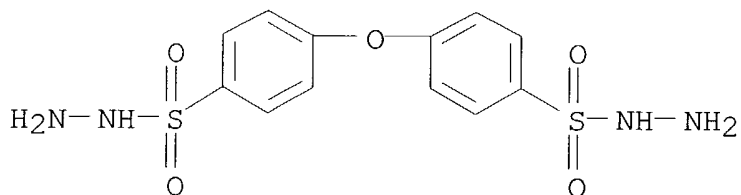
106:121035 Thermoset microporous polymer lubricating composition. Jamison, Warren E.; Stull, Dean P.; Guzzetta, Franklin H. (Armco, Inc., USA). U.S. US 4623472 A 19861118, 26 pp. (English). CODEN: USXXAM. APPLICATION: US 1985-720518 19850405.

AB A self-lubricating thermosetting microporous polymer consists of a porous polymer (e.g. **polyurethanes**) contg. lubricating oil within a matrix contg. interconnected pores; the lubricating oil is incorporated within the matrix during polymer formation and setting. During use (e.g., as bearings or wire ropes) the integrity of the polymer matrix is maintained and lubricant is readily released. Addnl. components (e.g., foaming agent, emulsifier, or surface-energy modifiers) can be added during polymer formation. A lubricating oil blend, contg. 25% paraffin oil and 75% trimethylolpropane trioleate, 156.6, was mixed with OH-terminated linear polyester polyol (Witco Fomrez 11-225) 130.7 and Sn dioctanoate (Witco Fomrez C-2) 4.0 wt. parts and the mixt. was blended with 100 wt. parts Isonate 181 (MDI prepolymer), molded as a bearing, and cured; 36% of the initial 40% available lubricating oil could be used for lubrication.

IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (Celogen OT, self-lubricating compns. contg., for porous **polyurethanes**)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C10M149-20  
 NCL 252012200  
 CC 38-3 (Plastics Fabrication and Uses)  
 ST thermosetting self lubricating **polyurethane**; bearing self  
 lubricating thermosetting polymer; wire rope self lubricating  
 IT Paraffin oils  
 Siloxanes and Silicones, uses and miscellaneous  
 (lubricating compns. contg., self-, for porous  
**polyurethanes**)  
 IT Polyamides, uses and miscellaneous  
 (polymers with **epoxy** resins, self-lubricating  
 thermosetting compns. contg.)  
 IT Polyesters, uses and miscellaneous  
 (self-lubricating compns. contg., for porous  
**polyurethanes**)  
 IT Lubricating oils  
 (self-lubricating porous **polyurethanes** contg.)  
 IT **Epoxy** resins, uses and miscellaneous  
**Urethane** polymers, uses and miscellaneous  
 (thermosetting, porous oil-impregnated, as self-lubricating  
 compns.)  
 IT Ropes  
 (wire, oil-impregnated, self-lubricating, porous **urethane**  
 polymers)  
 IT Rubber, synthetic  
 (epichlorohydrin, self-lubricating compns. contg, for porous  
**polyurethanes**)  
 IT Bearings  
 (oil-impregnated, self-lubricating, porous **urethane**  
 polymers)  
 IT Lubricants  
 (self-, thermosetting **polyurethanes**, oil-impregnated)  
 IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide  
 (Celogen OT, self-lubricating compns. contg., for porous  
**polyurethanes**)  
 IT 25619-56-1  
 (NaSul BSN, self-lubricating compns. contg., for porous  
**polyurethanes**)  
 IT 55777-58-7D, **polyurethane** rubber derivs. 58285-23-7  
 107088-01-7, Isonate 240-propanediol copolymer 107088-02-8

107088-03-9 107088-04-0 107088-05-1, Isonate 240-Voranol 800 copolymer  
 107088-06-2, Isonate 181-Voranol 800 copolymer  
 107088-07-3 107088-08-4, Desmodur L2291A-Voranol 800 copolymer  
 107088-09-5 107088-10-8, Isonate 181-Voranol 2070 copolymer  
 107088-11-9, Desmodur L2291A-Voranol 2070 copolymer 107088-12-0  
 107088-13-1 107088-14-2 107088-15-3, Isonate 240-Voranol 2070 copolymer  
 107088-20-0, Isonate 181-propanediol copolymer  
 107088-21-1 107088-23-3 107088-24-4 107102-36-3 107122-25-8  
 107122-26-9 107122-27-0 107286-13-5 107286-14-6 107286-15-7  
 107286-16-8, Isonate 181-Fomrez 11-112 copolymer 107286-17-9  
 107286-18-0 107286-19-1, Isonate 240-Fomrez 11-112 copolymer  
 107286-20-4, Isonate 240-Fomrez 11-225 copolymer 107286-21-5  
 107286-22-6 107286-23-7, Desmodur L2291A-Fomrez 11-225 copolymer  
 107435-84-7 107435-85-8, Isonate 181-Voranol 2103 copolymer  
 107435-86-9, Desmodur L2291A-Voranol 2103 copolymer 107435-87-0  
 107435-88-1, Isonate 240-Voranol 2103 copolymer 107435-93-8  
 107435-94-9

(composites with lubricating oils)

IT 81544-49-2

(**polyurethane** blends, composites with lubricating oils)

IT 86417-85-8, Van Lube 72 96956-77-3, Van Lube 73

(**polyurethane** composites with lubricating oils contg.)

IT 61710-61-0

(rubber, self-lubricating compns. contg, for porous **polyurethanes**)

IT 24969-06-0

(rubber, self-lubricating compns. contg. for porous **polyurethanes**)

IT 57675-44-2, Trimethylolpropane trioleate 107119-73-3

(self-lubricating **polyurethane** composites contg.)

IT 1317-33-5, Molybdenum sulfide (MoS<sub>2</sub>), uses and miscellaneous

(self-lubricating **polyurethane** composites contg.)

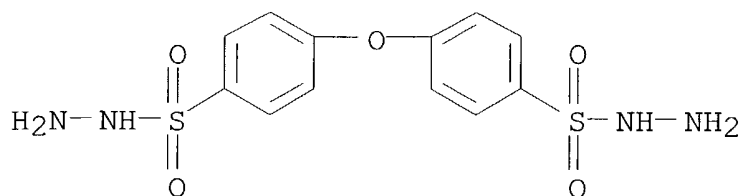
L52 ANSWER 24 OF 25 HCA COPYRIGHT 2004 ACS on STN

65:21641 Original Reference No. 65:4063c-g Rigid poly(vinyl chloride) foams. Parker, Robert S. R.; Taylor, Percy (Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber-Colombes). FR 1411716 19650924, 4 pp. (Unavailable). APPLICATION: FR 19640609.

AB Poly(vinyl chloride) foams with improved chem. resistance, dimensional stability, and lower flammability and toxicity are produced. Such rigid or semirigid foams are produced by heating a mixt. of a polymer or copolymer of vinyl chloride, a polyisocyanate, a blowing agent, and an unsatd. anhydride and a hydrocarbon contg. 1 or 2 cyclic double bonds plus stabilizers, plasticizers, solvents, weighting agents and pigments in a mold under superatm. pressure (3-7 tons/in<sup>2</sup>) at 130° to decomp. the blowing agent and .apprx.180° to solidify the polymer. The product is cooled, sepd. from the mold. and again heated to obtain expansion by

immersing in H<sub>2</sub>O at .apprx.90°. The expansion is achieved in .apprx.90 min. The polyisocyanate is present in an amt. of 5-50% by wt. of the initial mixt. and is preferably an aromatic polyisocyanate. The amt. of the blowing agent used depends on the degree of expansion required and is 1-10% by wt. of the initial mixt. The blowing agents decomp. irreversibly at 80-200° and include compds., such as azodinitriles, azoamides, or oximes, sulfonyl hydrazides or hydrazones, org. nitriles, N-nitroso compds., urea, and urea derivs. and salts. The amt. of unsatd. anhydride is 5-40% by wt. of the initial mixt. An ethylenically unsatd. anhydride of a mono- or di- carboxylic acid, such as maleic or cinnamic anhydride, is preferred. The hydrocarbons contg. 1 or 2 cyclic double bonds include compds. such as cyclo(pentene, hexene, octene), cyclo(penta, hexa, hepta) diene or 1,5-cyclooctadiene, and their alkyl derivs. The compds. contg. 2 double bonds are preferred. Thus, MeC<sub>5</sub>H<sub>3</sub>(NCO)<sub>2</sub> 48.5, cyclohexane 14.5, and maleic anhydride (I) 37 parts by wt. were mixed in a steel vessel at 30° until complete soln. of I was obtained. The soln. was then placed in a mixer in which 100 parts poly(vinyl chloride) and 5 parts p,p'-oxybis(benzenesulfonylhydrazide) are added. After kneading for 10 min. the pasty product is placed in a slubbing machine from which strips of 20-50 mm. cross-section are removed and cut up. These are put in a mold and heated to 180°. After solidification, the mold is cooled and the molding removed and immersed in H<sub>2</sub>O at 95°. The expanded product is removed after 30 min. and heated for 24-48 hrs. to remove traces of liquid. The cellular product obtained has good dimensional stability, solvent resistance, and thermal cond. A similar process is applied to a mixt. of diphenyl methyl diisocyanate, pinene, I, phthalic anhydride, poly(vinyl chloride) and N,N'-dinitroso-N,N'-dimethylterephthalamide, giving a rigid cellular material with good dimensional stability above 100°. The same process was applied to a mixt. of CH<sub>3</sub>C<sub>6</sub>H<sub>3</sub>(NCO)<sub>2</sub> with cyclopentadiene, I, poly(vinyl chloride), and azodiisobutyronitrile. The same mixt. with addn. of 10 parts FCCl<sub>3</sub> gave a rigid cellular material with a low coeff. of thermal cond.

IT 80-51-3, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
 (as blowing agent in vinyl chloride polymer rigid foam manuf.)  
 RN 80-51-3 HCA  
 CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C08F

CC 48 (Plastics Technology)

IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
(as blowing agent in vinyl chloride polymer rigid foam manuf.)

L52 ANSWER 25 OF 25 HCA COPYRIGHT 2004 ACS on STN

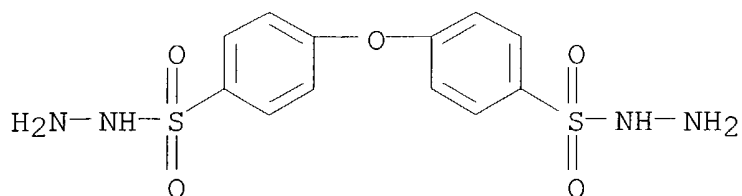
61:93194 Original Reference No. 61:16267a-c **Polyketones**. (VEB Farbenfabrik Wolfen). NL 284482 19640310, 4 pp. (Unavailable).  
APPLICATION: NL 19621018.

AB Polymers having improved phys. and tech. properties can be obtained by reaction of mono-, di-, or trimethylolketones or their mixts. in the presence of a catalyst consisting of 40-60 wt. % aq. soln. of NaOH or KOH or alcoholates or alc. solns. of these bases. From 0.5 to 5.0 vol. % catalyst can be used. Suitable fillers, plasticizers, surfactants, and blowing agents can be added to the polymerizing mixt. A polymer foam can be obtained by reaction of the monomer-catalyst mixt. in an open or closed mold. The polymers obtained are insol. in org. solvents, acids, and bases and are only attacked by concd. H2SO4 and HNO3. Hard foams useful as building elements and as insulating material can be prepd. from them. Thus, 100 parts by wt. hydroxymethylated acetone compd. contg. 1.7 methylol groups was mixed together with 3.5 parts by vol. 50% NaOH. The mixt. was brought into a closed, iron cylinder (2.5 times the vol. of the mixt.) provided with a discharge opening for the H2O vapor. The filled mold was heated at 90° during 2 min. The polymer obtained had a d. of 0.4 and a compression strength of .apprx.70 kg./cm.2

IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
(reaction products with polyethylene)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



CC 48 (Plastics Technology)

IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
(reaction products with polyethylene)

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L53 ANSWER 1 OF 25 HCA COPYRIGHT 2004 ACS on STN

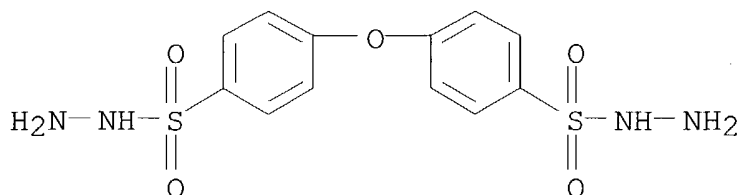
139:61935 Electromagnetic machines with easy recyclability of permanent magnets. Akiyoshi, Kensuke; Sasaki, Iwao; Tsubone, Yoshifusa (Yasukawa Electric Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003173910 A2 20030620, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-371933 20011205.

AB The machines such as elec. motors or MRI comprise a permanent magnet bound to a substrate using an adhesive, where the adhesive contains a heat expandable material that expands at 50-200° and the machine is equipped with a holder to retain the magnet to the substrate. A permanent magnet unit useful for linear motor comprised a substrate, a holder, a permanent magnet, and an adhesive contg. bisphenol A-type **epoxy** resin, 10-80 part heat expandable material such as azodicarbonamide (heat expansion temp. 200°), and triethylenetetramine 5-20 parts. The magnet was 100% demagnetized when heated at 340° and easily recovered from the unit.

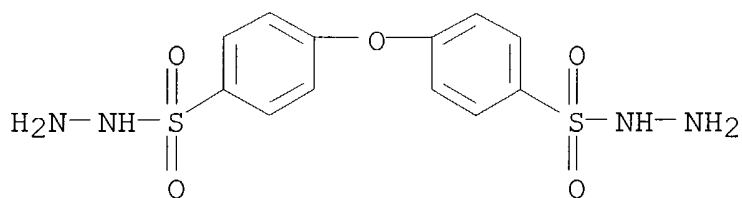
IT **80-51-3**, p, p'-Oxybisbenzenesulfonyl hydrazide  
(heat expandable material, adhesive contg.; electromagnetic machines with easy recyclability of permanent magnets)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



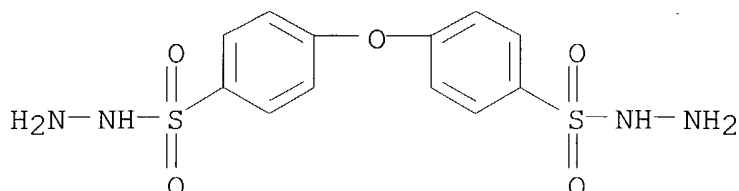
- IC ICM H01F007-02  
ICS C09J011-00; C09J201-00  
CC 77-4 (Magnetic Phenomena)  
Section cross-reference(s): 38
- IT **Adhesives**  
(acrylic; electromagnetic machines with easy recyclability of permanent magnets)
- IT **Epoxy** resins, uses  
(adhesive; electromagnetic machines with easy recyclability of permanent magnets)
- IT 78-67-1, AIBN 80-17-1, Benzenesulfonyl hydrazide **80-51-3**, p, p'-Oxybisbenzenesulfonyl hydrazide 123-77-3, Azodicarbonamide 133-55-1, N,N'-Dinitroso-N,N'-dimethylterephthalamide 144-55-8, Sodium bicarbonate, uses 506-87-6, Ammonium carbonate 1576-35-8, p-Toluenesulfonyl hydrazide  
(heat expandable material, adhesive contg.; electromagnetic machines with easy recyclability of permanent magnets)
- L53 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN  
138:272437 Thermosetting expandable resin compositions for sound-insulating, vibration-damping, and heat-insulating fillers in hollow parts and pipes. Kawaguchi, Takahiko (Nitto Denko Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2003105118 A2 20030409, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-300989 20010928.
- AB The compns. for filling automotive doors, household elec. appliances, etc., comprise thermosetting resins, org. blowing agents, thixotropic agents, cryst. water-contg. inorg. fillers, and microgranular hollow **particles** and have d.  $\leq 1.0$  g/cm<sup>3</sup>. Thus, Epikote 828, Epikote 1002, OBSH (4,4'-oxybenzenesulfonyl hydrazide blowing agent), org. bentonite, Higilite [Al(OH)<sub>3</sub>], alumina silicate (hollow **particle**), and dicyandiamide were kneaded and hot-pressed to give a sheet, which was bonded on internal surface of a metal square pipe and heated to give a foam-filled pipe showing no burning of the filled resin.
- IT **80-51-3**, OBSH  
(blowing agent; thermosetting expandable resin compns. for sound-insulating, vibration-damping, and heat-insulating fillers in hollow parts and pipes)
- RN 80-51-3 HCA  
CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C08J009-06  
ICS C08L101-00
- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38
- ST **epoxy** resin expandable compn hollow part filler; aluminum hydroxide expandable resin filler burning prevention; bentonite thixotropic agent expandable **epoxy** resin filler; hollow **particle** expandable thermosetting resin filler
- IT **Epoxy** resins, preparation  
Plastic foams  
(thermosetting expandable resin compns. for sound-insulating, vibration-damping, and heat-insulating fillers in hollow parts and pipes)
- IT **80-51-3**, OBSH  
(blowing agent; thermosetting expandable resin compns. for sound-insulating, vibration-damping, and heat-insulating fillers in hollow parts and pipes)
- L53 ANSWER 3 OF 25 HCA COPYRIGHT 2004 ACS on STN  
137:64221 Resin composition containing blowing agent and adhesive using the composition with easy peeling property. Fujita, Masato; Naito, Shigeki (Sumitomo Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002187973 A2 20020705, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-312417 20011010. PRIORITY: JP 2000-313500 20001013.
- AB The compn. contains an **epoxy** resin and/or a modified siloxane and a blowing agent. The adhesive contains the expandable compn., which is used for lamination of substrates. The substrates can be recovered from the above laminate by heating for peeling off from the laminate and the substrates without adhesive residue on the surfaces can be recycled. Thus, 2 Al alloy sheets (A 1050P) were laminated through 100:50 mixt. of **epoxy** resin (ER 10) and p,p'-oxybisbenzenesulfonyl hydrazide (Cellmic S) and pressed at room temp. for 7 days for aging to give a laminate showing peeling strength 1.2 N/mm<sup>2</sup>, which was heated at 160° for 5 min to show peeling off of the 2 sheets due to expansion of the adhesive.
- IT **80-51-3**, Cellmic S  
(blowing agent; resin compn. contg. blowing agent as expandable adhesive for laminated product showing easy peeling off for



recycling)  
 RN 80-51-3 HCA  
 CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08J009-32  
 ICS C08J009-32; B32B027-00; B32B027-38; C08J009-06; C09J163-00; C09J183-04; C08L083-04  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 55, 56, 57  
 ST **epoxy** resin blowing agent expandable adhesive; easy peeling off laminate expandable adhesive; recycling aluminum sheet laminate expandable adhesive; oxybiebenzenesulfonyl hydrazide **epoxy** resin adhesive expandable; modified siloxane blowing agent adhesive  
 IT **Adhesives**  
 Blowing agents  
 Laminated materials  
 Recycling of plastics and rubbers  
 (resin compn. contg. blowing agent as expandable adhesive for laminated product showing easy peeling off for recycling)  
 IT **Epoxy** resins, uses  
 (resin compn. contg. blowing agent as expandable adhesive for laminated product showing easy peeling off for recycling)  
 IT **80-51-3**, Cellmic S 123-77-3, Cellmic C 121 118549-47-6, Microsphere F 30D 246862-85-1, Microsphere F 84D  
 (blowing agent; resin compn. contg. blowing agent as expandable adhesive for laminated product showing easy peeling off for recycling)

L53 ANSWER 4 OF 25 HCA COPYRIGHT 2004 ACS on STN  
 136:233279 Crosslinked foamed pressure-sensitive adhesive and method for preparing the same. Mino, Yasuhiro (3M Innovative Properties Company, USA). PCT Int. Appl. WO 2002020687 A2 20020314, 24 pp.  
 DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG,

KZ, MD, RU, TJ; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US27015 20010829. PRIORITY: JP 2000-267593 20000904.

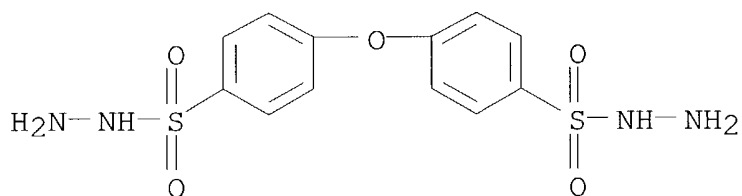
AB A crosslinked foamed pressure-sensitive adhesive having excellent stress relaxing property, restoration property, and solvent resistance is prepd. by heating a heat crosslinkable and heat-foamable compn. contg. a tacky polymer having a mol. wt. of at least 100,000, a heat crosslinking agent, and a heat foaming agent to cause crosslinking and foaming.

IT **80-51-3**

(crosslinked foamed pressure-sensitive adhesive)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09J009-00

CC 38-3 (Plastics Fabrication and Uses)

IT Synthetic rubber, uses

(acrylic-**epoxy**, polymers with acrylic monomers; crosslinked foamed pressure-sensitive adhesive)

IT **Adhesives**

(pressure-sensitive; crosslinked foamed pressure-sensitive adhesive)

IT **80-51-3** 14484-64-1, Iron dimethyldithiocarbamate (crosslinked foamed pressure-sensitive adhesive)

L53 ANSWER 5 OF 25 HCA COPYRIGHT 2004 ACS on STN

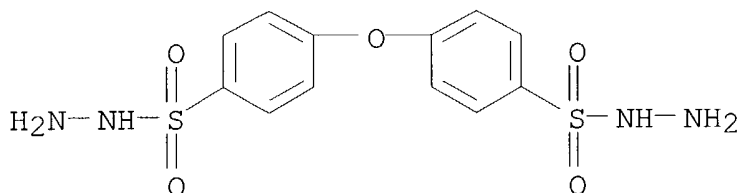
135:6568 Easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compositions use in the same. Fujita, Mahito; Naitoh, Shigeki (Sumitomo Chemical Company, Limited, Japan).

PCT Int. Appl. WO 2001038085 A1 20010531, 34 pp. DESIGNATED

STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (Japanese). CODEN: PIXXD2.

APPLICATION: WO 2000-JP8195 20001121. PRIORITY: JP 1999-331122  
19991122.

- AB The laminate comprises (A) a recyclable substrate, (B) an adhesive which is peelable when exposure to an energy, and (C) an adhesive which is unpeelable when exposure to an energy, wherein the three layers are laminated in the above order and the adhesive compn. comprises an **epoxy** resin and/or a modified silicone resin and a blowing agent. The laminate shows high adhesion strength during use, and the recyclable substrate is easily peelable from the laminate with irradiation of energy. Thus, a recyclable aluminum plate (A 1050P-HB) was coated with a mixt. of 100/50 Sumiflash XR 98 (photocurable acrylic polymer) and Microsphere F 30D (microbead) on one side, photocured, laminated with a polycarbonate plate (Takiron 1600) coated a Sumiflash XR 235 (photocurable acrylic polymer) and UV-irradiated to give a laminate showing adhesion strength >1.0 N/mm<sup>2</sup> and good peelability of Al plates after heating.
- IT **80-51-3**, Cellmic S  
(blowing agent; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM B32B007-12  
ICS C09J007-00; B32B009-00
- CC 38-3 (Plastics Fabrication and Uses)
- ST **epoxy** resin adhesive laminate peelability; silicone resin modified adhesive laminate peelability
- IT Polysiloxanes, uses  
(Bondsilex Clear, adhesives; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **Epoxy** resins, uses  
(adhesives; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **Adhesives**  
Blowing agents  
(easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT Laminated plastics, uses

- (easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **Adhesives**  
(peelable; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT Acrylic polymers, uses  
(photocurable, adhesives; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **Adhesives**  
(photocurable; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT Leather  
Paper  
Wood  
(substrates; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT Inorganic compounds  
Metals, miscellaneous  
Natural fibers  
Plastics, miscellaneous  
Polycarbonates, miscellaneous  
Synthetic fibers  
(substrates; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **Adhesives**  
(thermosetting; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT 62132-44-9, Araldite Rapid 340825-35-6, Sumiflash XR 98  
340825-82-3, ER 10  
(adhesives; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT **80-51-3, Cellmic S**  
(blowing agent; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT 9010-76-8D, acrylonitrile-vinylidene chloride copolymer, isobutane-encapsulated 118549-47-6, Microsphere F 30D  
(blowing agents; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT 340825-60-7, Sumiflash XR 235  
(easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT 7429-90-5, Aluminum, miscellaneous  
(recyclable substrate; easily peelable laminates and **epoxy** and/or modified silicone resin adhesive compns. use in the same)
- IT 92354-77-3, PC 1600  
(substrate; easily peelable laminates and **epoxy** and/or

modified silicone resin adhesive compns. use in the same)

L53 ANSWER 6 OF 25 HCA COPYRIGHT 2004 ACS on STN

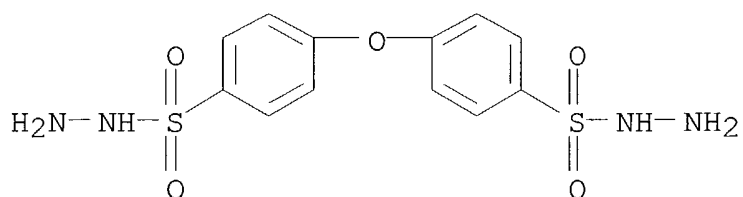
133:194357 Expandable **epoxy** resin-based filler compositions and method for reinforcing automobile bodies by using them. Ookoshi, Kazuki; Akira, Den Kouichirou; Suzuki, Katsuhiko (Nissan Motor Co., Ltd., Japan; Asahi Rubber K. K.; Parker Corp.). Jpn. Kokai Tokkyo Koho JP 2000239431 A2 20000905, 22 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-47582 19990225.

AB The compns. contain mixts. of **epoxy** resins and dimer acid-modified **epoxy** resins 100, mixts. of inorg. fillers with aspect ratio and powd. inorg. fillers 50-200, powd. methacrylate polymers 2-45, thermal curing agents 1-20, thermal curing catalysts 0.5-15, thermally decomposable org. blowing agents 0.5-20, antifoaming agents 2-15, and carbon black 2-15 parts. Thus, a compn. contg. a mixt. of bisphenol A **epoxy** resin and C36 dimer acid-modified bisphenol A **epoxy** resin 100, a 5:95 Ca silicate-CaCO<sub>3</sub> mixt. 130, poly(Me methacrylate) **powders** 30, dicyandiamide 11, polyamine-**epoxy** adduct 6, azodicarbonamide 6, CaO 9, and carbon black 9 parts was applied to a steel plate and baked to give a test piece showing good cell uniformity and rigidity. The compn. showed good storage stability after 5 days at 40°.

IT 80-51-3, 4,4'-Oxybis(benzenesulfonyl hydrazide)  
(blowing agent; **epoxy** resin foams contg. fillers and polymethacrylates for reinforcing automobile bodies)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08J009-06

ICS C08G059-50; C08K003-00; C08L063-00; C08L033-06

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 55, 56

ST **epoxy** resin filler foam automobile reinforcing; dimer acid modified **epoxy** foam rigidity; storage stability expandable **epoxy** resin polymethacrylate

IT Automobiles

(bodies; **epoxy** resin foams contg. fillers and polymethacrylates for reinforcing automobile bodies)

- IT Fatty acids, uses  
(dimer acids, C18, reaction products with bisphenol A  
**epoxy** resin, polymers with **epoxy** resin and  
dicyandiamide; **epoxy** resin foams contg. fillers and  
polymethacrylates for reinforcing automobile bodies)
- IT Polyamines  
(**epoxy** adducts, curing catalysts; **epoxy** resin  
foams contg. fillers and polymethacrylates for reinforcing  
automobile bodies)
- IT Antifoaming agents  
Blowing agents  
Crosslinking agents  
Crosslinking catalysts  
Fillers  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT **Epoxy** resins, uses  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT Plastic foams  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT Carbon black, uses  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT 1305-78-8, Calcium oxide, uses  
(antifoaming agent; **epoxy** resin foams contg. fillers  
and polymethacrylates for reinforcing automobile bodies)
- IT **80-51-3**, 4,4'-Oxybis(benzenesulfonyl hydrazide) 123-77-3,  
Azodicarbonamide  
(blowing agent; **epoxy** resin foams contg. fillers and  
polymethacrylates for reinforcing automobile bodies)
- IT 461-58-5DP, Dicyandiamide, polymers with **epoxy** resins  
25068-38-6DP, Bisphenol A **epoxy** resin, polymers with dimer  
acid-modified **epoxy** resin and dicyandiamide  
25068-38-6DP, Bisphenol A **epoxy** resin, reaction products  
with dimer acid, polymers with **epoxy** resin and dicyanamide  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT 9011-14-7, Poly(methyl methacrylate)  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT 12597-69-2, Steel, uses  
(**epoxy** resin foams contg. fillers and polymethacrylates  
for reinforcing automobile bodies)
- IT 471-34-1, Calcium carbonate, uses 1344-95-2, Calcium silicate  
(filler; **epoxy** resin foams contg. fillers and  
polymethacrylates for reinforcing automobile bodies)

L53 ANSWER 7 OF 25 HCA COPYRIGHT 2004 ACS on STN

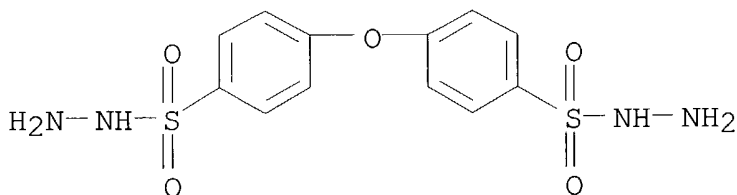
133:136150 Polymer compositions for **powder** foam molding, their **powders** and foams, and manufacture of the foams and moldings. Iketani, Kohichi; Nakatsuji, Yoshihiro; Ohtani, Kohsuke (Sumitomo Chemical Company, Limited, Japan). PCT Int. Appl. WO 2000044820 A1 20000803, 24 pp. DESIGNATED STATES: W: CN, DE, KR, US. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2000-JP239 20000120. PRIORITY: JP 1999-18193 19990127.

AB Title storage-stable compns. comprise **epoxy**-contg. polymers, peroxides having a 10-h half life at  $\geq 100^\circ$ , quaternary ammonium and/or phosphonium salts, and thermally decomposable foaming agents. A compn. comprising ethylene-glycidyl methacrylate-vinyl acetate copolymer [I, with melt flow rate (MFR) 340 g/10 min] 75, another I (with MFR 20 g/10 min) 25, Perbutyl P 40 6, TAIC-M 60 2, octadecyltrimethylammonium bromide 3, Cellmic C 121 3, Cellmic S 0.25, ZnO 5 and antioxidants 1.2 parts was kneaded, pressed into a sheet, cut, soaked in liq. N, and pulverized to form a **powder**, which was slush molded in a molten resin sheet (A)-contg. mold to form a foam molding showing good appearance and adhesion (between the A sheet and foam layer) and contg. foam layer with  $<0.5$ -mm cells and compression set of 2%; similar foam moldings were obtained after storing the **powder** at  $55^\circ$  for 1 wk or at  $70^\circ$  for 2 days.

IT 80-51-3, Cellmic S  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08J009-06

ICS C08L063-00; B32B027-28; B32B005-18; B29C041-18; B29K063-00; B29K105-04

CC 37-6 (Plastics Manufacture and Processing)


ST storage stability **epoxy** polymer **powder** slush foam molding; quaternary ammonium salt **epoxy** polymer **powder** slush molding; phosphonium quaternary salt **epoxy** polymer **powder** slush molding; peroxide

- foaming agent **epoxy** polymer **powder** slush molding
- IT Vinyl compounds, uses  
(polymers; quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT Thermoplastic rubber  
(protective layers on foams; quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT Foaming agents  
Molding of plastics and rubbers  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT Peroxides, properties  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT Phosphonium compounds  
Quaternary ammonium compounds, uses  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT 78-63-7, Perhexa 25B40 2212-81-9, Perbutyl P 40  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT 192823-59-9P  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)
- IT **80-51-3**, Cellmic S 112-03-8, Octadecyltrimethylammonium chloride 123-77-3, Cellmic C 121 1120-02-1, Octadecyltrimethylammonium bromide 1779-49-3, Methyltriphenylphosphonium bromide  
(quaternary ammonium (or phosphonium) salt-contg. **epoxy** polymer **powders** with storage stability for foam moldings)

L53 ANSWER 8 OF 25 HCA COPYRIGHT 2004 ACS on STN

130:197440 **Epoxy** resin composition for stiffening vehicle body. Fukui, Takayuki (Nissan Motor Co., Ltd., Japan). Eur. Pat. Appl. EP 899300 A2 19990303, 18 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-306587 19980818. PRIORITY: JP 1997-229865 19970826.

AB The **epoxy** resin compn. comprises: 100 parts of an **epoxy** resin, 2-45 parts of a **powdery** methacrylate





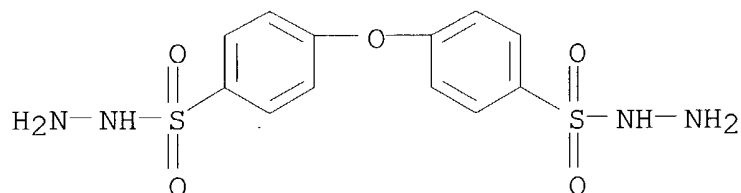
polymer, 1-20 parts of a thermally active hardening agent, 0.5-20 parts of a thermally decomposable foaming agent, and 50-200 parts of a mixt. contg. an inorg. salt, with a predetd. shape ratio, and a **granular** inorg. salt. The mixing ratio of the **granular** inorg. salt is 0-50 wt.% relative to the total amt. of the mixt. Also disclosed is a method for stiffening a vehicle body by use of such a compn.

IT **80-51-3**

(**epoxy** resin compn. for stiffening vehicle body)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08L063-00

ICS C08J009-00

CC 37-6 (Plastics Manufacture and Processing)

ST **epoxy** methacrylate polymer compn vehicle body stiffening

IT Automobiles

(**epoxy** resin compn. for stiffening vehicle body)

IT **Epoxy** resins, uses

(**epoxy** resin compn. for stiffening vehicle body)

IT **80-51-3** 461-58-5, Dicyandiamide

(**epoxy** resin compn. for stiffening vehicle body)

IT 1344-95-2, Calcium silicate

(**epoxy** resin compn. for stiffening vehicle body)

IT 79-41-4D, Methacrylic acid, esters, polymers 25085-99-8, Bisphenol A diglycidyl ether homopolymer

(**epoxy** resin compn. for stiffening vehicle body)

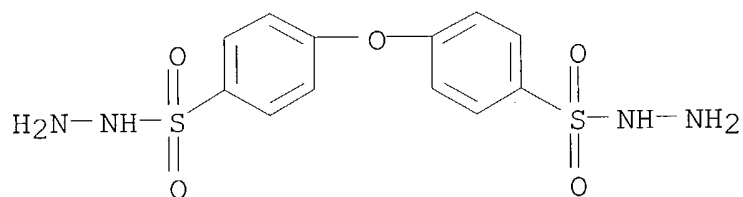
L53 ANSWER 9 OF 25 HCA COPYRIGHT 2004 ACS on STN

124:10497 Acrylic resin-based cap-sealing compositions. Moriga, Toshinori; Kojima, Shunji; Nagase, Toshio; Kobayashi, Takeo (Toyo Seikan Kaisha Ltd, Japan; Nippon Zeon Co). Jpn. Kokai Tokkyo Koho JP 07188390 A2 19950725 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-330832 19931227.

AB The title compns. with good moldability at low temp., creep resistance, and no Cl gas generation after burning contain (A) acrylic resin-based **particles** with av. **particle** size 0.1-5  $\mu\text{m}$  and THF-insol. portions 10-60% prepd. from 1-50% **epoxy**-contg. ethylenic unsatd. monomers and  $\geq 40\%$

(meth)acrylate monomers for homopolymers with glass temp. (Tg)  $\geq 50^\circ$  100, (B) citric acid ester- and/or glycol ester-based plasticizers 45-200, (C) bisphenol A- and/or bisphenol F-type **epoxy** resins 0.1-10, and (D) **epoxy** resin crosslinking catalysts 0.1-15 parts. Foamable cap-sealing compns. contain the compns. and 0.1-5 parts azodicarbonamide and/or p,p'-oxybis(benzenesulfonyl hydrazide). Thus, an acrylic resin **particle** prepd. from Me methacrylate, glycidyl methacrylate, and ethylene glycol dimethacrylate 100, acetyl tri-Bu citrate 80, Epikote 834 4, Cymel 303 3.5, and Catalyst 600 0.1 parts were kneaded to obtain a paste-like compn. with good properties for cap sealing.

IT 80-51-3, p,p'-Oxybis(benzenesulfonyl hydrazide)  
 (blowing agent; cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)  
 RN 80-51-3 HCA  
 CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08G059-38  
 ICS C08J009-06; C08L063-00; C09J163-00  
 ICA C08L033-04  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 37  
 ST cap sealing resin creep resistance; **epoxy** resin cap sealing moldability; polyacrylate **epoxy** plasticizer creep resistance; blowing cap sealing resin molding  
 IT Blowing agents  
 Bottle caps  
 Crosslinking catalysts  
 Sealing compositions  
 (cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)  
 IT **Epoxy** resins, uses  
 (cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)  
 IT Plasticizers

(citric acid esters, glycol esters; cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)

IT **Epoxy** resins, uses  
(bisphenol F-based, cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)

IT **80-51-3**, p,p'-Oxybis(benzenesulfonyl hydrazide) 123-77-3,  
Azodicarbonamide

(blowing agent; cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)

IT 170926-92-8P 170926-93-9P 170926-94-0P 170926-95-1P  
170926-96-2P 170926-97-3P 170926-98-4P

(cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)

IT 77-90-7, Acetyl tributyl citrate 85-70-1, Butyl phthalyl butyl glycolate

(plasticizer; cap-sealing compns. contg. polyacrylate **particles**, **epoxy** resins, plasticizers, blowing agents with no Cl gas generation and creep resistance)

L53 ANSWER 10 OF 25 HCA COPYRIGHT 2004 ACS on STN

121:232651 Structural adhesives for metal part bonding. Mori, Shigeo (Toyoda Gosei Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06057224 A2 19940301 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-229221 19920804.

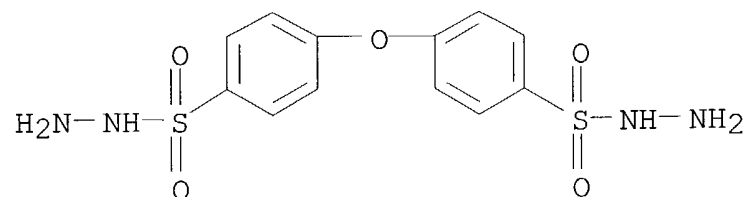
AB The adhesives resulting in good appearance and adhesion contain a heat-expanding filler. An **epoxy** adhesive contg. Exapancel DU551 was used to bond an inner metal panel and an outer metal panel of automobile hood.

IT **80-51-3**, Neocellborn N 1000S


(heat-expanding fillers, **epoxy** resins as structural adhesives contg., with good appearance and adhesive strength)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)

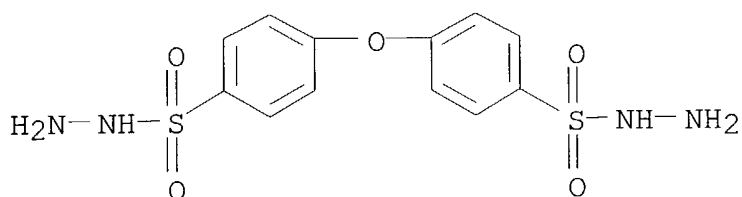


IC ICM C09J011-08  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 55, 56  
IT Mastics  
(butyl rubber, **epoxy** resins as structural adhesives  
contg., with good appearance and adhesive strength)  
IT **Epoxy** resins, uses  
(liq., adhesives, structural, contg. heat-expanding fillers, with  
good appearance and adhesive strength)  
IT Rubber, butyl, uses  
(mastics, **epoxy** resins as structural adhesives contg.,  
with good appearance and adhesive strength)  
IT **Adhesives**  
(structural, heat-expanding filler-contg., with good appearance  
and adhesive strength)  
IT **80-51-3**, Neocellborn N 1000S 9002-86-2, PVC 26813-83-2,  
Expancel 091DE 115925-85-4, Expancel 461DE 118366-73-7, Expancel  
DU 551  
(heat-expanding fillers, **epoxy** resins as structural  
adhesives contg., with good appearance and adhesive strength)  
IT 9010-85-9  
(rubber, mastics, **epoxy** resins as structural adhesives  
contg., with good appearance and adhesive strength)

L53 ANSWER 11 OF 25 HCA COPYRIGHT 2004 ACS on STN  
119:161925 Composite foam molded article, process for its production,  
and foamable **powder** composition. Igarashi, Toshio;  
Shinohara, Sueharu; Tatsumi, Yasayuki; Hikasa, Tadashi; Mendori,  
Hiroaki (Sumitomo Chemical Co., Ltd., Japan). Eur. Pat. Appl. EP  
515223 A1 19921125, 22 pp. DESIGNATED STATES: R: DE, FR, GB, IT,  
NL. (English). CODEN: EPXXDW. APPLICATION: EP 1992-304684  
19920522. PRIORITY: JP 1991-118712 19910523; JP 1991-151595  
19910624; JP 1991-218506 19910829; JP 1991-218523 19910829; JP  
1991-306163 19911121. 

AB Integrally molded composites comprise a nonfoam layer from a  
thermoplastic elastomer (C<sub>2</sub>H<sub>4</sub>- $\alpha$ -olefin and a polyolefin)  
**powder** with a specified Newtonian viscosity, and a foamed  
layer from a thermoplastic **powder** contg. a  
heat-decomposable blowing agent (and optionally a liq. coating  
agent). The composites have good cleanness, lightwt., soft touch,  
moldability into complicated patterns and are useful in automobile  
interiors.

IT **80-51-3**, Cellmic S  
(blowing agent, integrally molded plastic foam composites contg.)  
RN 80-51-3 HCA  
CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



- IC ICM B29C067-22  
ICS B29C041-18; B29C041-22; B32B005-18  
ICI B29K023-00, B29K105-24, B29L009-00  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 39  
IT Acrylic polymers, uses  
Epoxy resins, uses  
Siloxanes and Silicones, uses  
(coating agents, integrally molded plastic foam composites contg.)  
IT 80-51-3, Cellmic S 123-77-3, Cellmic CAP-500  
(blowing agent, integrally molded plastic foam composites contg.)
- L53 ANSWER 12 OF 25 HCA COPYRIGHT 2004 ACS on STN  
114:187163 Manufacture and uses of cellular **epoxy** resin adhesives. Eder, Martin; Zednik, Milan; Vankova, Marcela; Soucek, Jiri (Czech.). Czech. CS 267463 B1 19900702, 4 pp. (Czech).  
CODEN: CZXXA9. APPLICATION: CS 1987-4658 19870623.
- AB Adhesive **epoxy** resin films, which cure by foaming at 100-180°, and are useful in assembling honeycomb structures, filling of cavities, and bonding of aircraft components, comprise ≥1 **epoxy** resin (**epoxy** equiv. 166-4000)  
100, reinforcing fillers 1-35, blowing agents [e.g., (NH<sub>4</sub>)<sub>2</sub>CO<sub>3</sub>, NaHCO<sub>3</sub>, KHCO<sub>3</sub>, Na<sub>3</sub>PO<sub>4</sub>·12H<sub>2</sub>O, Na<sub>2</sub>HPO<sub>4</sub>·7H<sub>2</sub>O, isooctane, Cl<sub>2</sub>C:CCl<sub>2</sub>, ClCH:CCl<sub>2</sub>, PhSO<sub>3</sub>NH<sub>2</sub>, (4-H<sub>2</sub>NNHSO<sub>3</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>O, azobisisobutyronitrile (I), azodicarbonamide, H<sub>2</sub>O, or N,N'-dinitrosopentamethylenetetramine] 0.1-10, dicyandiamide (II) 1-15, cure accelerator [e.g., 2,4-(MeNHCONH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>Me (III), 4-ClC<sub>6</sub>H<sub>4</sub>NHCOMe<sub>2</sub>, or thiuram disulfide] 1-20, surfactant 0.1-10, and foam stabilizer [e.g., CM-cellulose or poly(vinyl alc.)] 0.1-10 parts. The **epoxy** resin, filler, and surfactant are mixed at 90-210°, cooled to 40-90°, II, cure accelerator, and blowing agent are added and the mixt. is pressed, calendered, or extruded into films. Thus, a bisphenol A-based **epoxy** resin (**epoxy** equiv. 2500-4000)  
250, gas black (having BET surface area 50 m<sup>2</sup>/g) 23, silica (BET surface area 200 m<sup>2</sup>/g) 10, and Slovafo 905 2 g were blended at 200-210° for 50 min, cooled to 80° with addn. of 150 g low-mol. wt. **epoxy** resin, mixed with a paste contg. low-mol. wt. **epoxy** resin 100, II 30, III 30, and I 5 g for 15 min and calendered to a 2-mm thick film, which was cured at

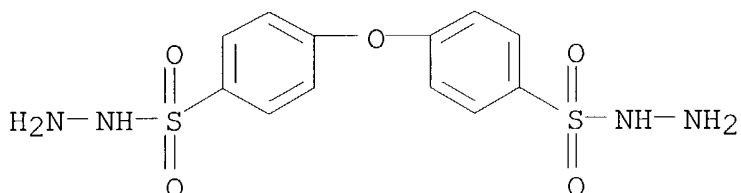
120° for 60 min with foam expansion by 100-200 vol. %.

IT **80-51-3**

(blowing agents, for **epoxy** resin adhesives)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09J007-00

ICA C09J005-08

CC 38-3 (Plastics Fabrication and Uses)

ST **epoxy** resin adhesive film manuf; blowing agent

**epoxy** resin adhesive; bisphenol **epoxy** resin adhesive film; foam **epoxy** resin adhesive film

IT Phenols, uses and miscellaneous

(alkyl ethoxylated, stabilizers, for **epoxy** resin adhesive resin foams)

IT **Adhesives**

(cellular, **epoxy** resin compns. for)

IT Adhesive tapes

(cellular, **epoxy** resin compns. for, manuf. and uses of)

IT Aluminosilicates, uses and miscellaneous

Carbon black, uses and miscellaneous

Kaolin, uses and miscellaneous

(fillers, reinforcing, for **epoxy** resin adhesive resin foams)

IT Blowing agents

(hydrocarbons and oxygen and nitrogen-contg. compds., for **epoxy** resin adhesives)

IT Crosslinking

(of **epoxy** resin foams, in adhesive manuf.)

IT Crosslinking catalysts

(urea derivs. and thiourim sulfides, for **epoxy** resin foams)

IT **Epoxy** resins, uses and miscellaneous

(bisphenol A-based, adhesives, cellular, for tapes)

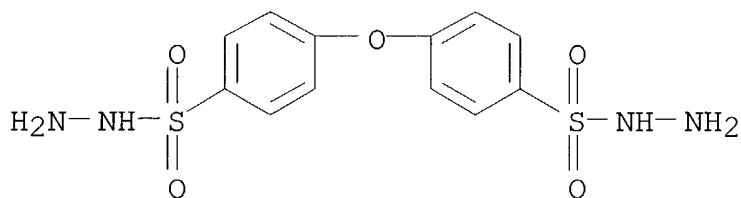
IT 1335-30-4

(aluminosilicates, fillers, reinforcing, for **epoxy** resin adhesive resin foams)

IT 78-67-1 79-01-6, Trichloroethylene, uses and miscellaneous

**80-51-3** 101-25-7 123-77-3, Azodicarbonamide 127-18-4,

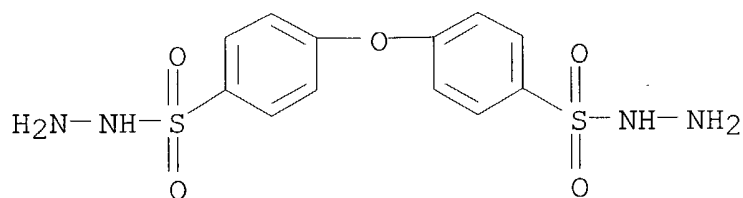
- Tetrachloroethylene, uses and miscellaneous 142-82-5, Heptane, uses and miscellaneous 144-55-8, Sodium bicarbonate, uses and miscellaneous 298-14-6, Potassium bicarbonate 506-87-6, Ammonium carbonate 540-84-1 7632-05-5, Sodium phosphate 7732-18-5, Water, uses and miscellaneous 14392-55-3, Hydrazinesulfonic acid (blowing agents, for **epoxy** resin adhesives)
- IT 137-26-8, Tetramethylthiuram disulfide 17526-94-2 75853-92-8 (crosslinking catalysts, for **epoxy** resin foams)
- IT 461-58-5, Dicyandiamide (**epoxy** resin foams contg., for adhesive tapes)
- IT 471-34-1, Calcium carbonate, uses and miscellaneous 7631-86-9, Silica, uses and miscellaneous 13463-67-7, Titanium dioxide, uses and miscellaneous 14807-96-6, Talc, uses and miscellaneous (fillers, reinforcing, for **epoxy** resin adhesive resin foams)
- IT 9002-89-5, Poly(vinyl alcohol) (stabilizers, for **epoxy** resin adhesive resin foams)
- L53 ANSWER 13 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 113:116701 Reinforced thermosetting resin adhesive sheets for reinforcing automobile panels. Nishiyama, Yukio; Shigeta, Kazuo (Nitto Denko Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02080479 A2 19900320 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-233350 19880916.
- AB Title sheets are prepd. from heat-resistant resin filled fibrous substrates and adhesives contg. thermosetting resin compns. A sheet, prepd. by laminating melamine resin (I)-filled glass cloth and a molded sheet prepd. from a mixt. of Epikote 871 45, Epikote 1002 40, and liq. isoprene rubber 15% contg. Curezol C11Z 0.6, dicyandiamide 5, talc 50, an org. bentonite 15, Neocellborn P 1000 3, and glass short fibers 35 phr, had flexural strength 62 kg/1.2 mm, vs. 57 without I-treatment.
- IT 80-51-3, Neocellborn P1000 (glass fiber-reinforced **epoxy** sheets contg., laminate with fiber reinforced melamine sheets, for automobile panels)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09J007-02

- ICS C09J007-02
- ICA B60R013-08
- CC 38-3 (Plastics Fabrication and Uses)
- ST glass fiber reinforced melamine adhesive laminate; **epoxy**  
contg rubber adhesive laminate; automobile panel rubber adhesive  
laminate; bentonite contg reinforced adhesive laminate
- IT Plastics, laminated  
(glass fiber-reinforced melamine resins and adhesive-contg.  
**epoxy** sheets, for automobile panels)
- IT **Adhesives**  
(isoprene rubber, fiber-reinforced thermosetting resins contg.,  
for reinforcing automobile panels)
- IT 9003-08-1, Formaldehyde-melamine copolymer  
(glass cloth-reinforced, laminated with adhesive-contg.  
fiber-reinforced **epoxy** resins, for reinforcing  
automobile panels)
- IT **80-51-3**, Neocellborn P1000  
(glass fiber-reinforced **epoxy** sheets contg., laminate  
with fiber reinforced melamine sheets, for automobile panels)
- L53 ANSWER 14 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 110:194350 **Epoxy** resin **powder** compositions for  
potting electronic parts. Ueda, Kenji; Kitagawa, Hideo; Watanabe,  
Shigeo; Kanai, Yoichi; Kawasaki, Masao (Sanyu Resin Co., Ltd.,  
Japan). Jpn. Kokai Tokkyo Koho JP 63273652 A2 19881110 Showa, 4 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-108364 19870430.
- AB Title compns., giving good flexibility, heat cycle resistance, and  
pinhole prevention on potting electronic parts, contain 100 parts  
**epoxy** resins, 1-60 parts blowing agents, and hardeners.  
Thus, a bisphenol **epoxy** resin (**epoxy** equiv 650)  
100, azodicarbonamide (I) 10, and 2-methylimidazole 5 parts were  
mixed and ground to prep. a powd. **epoxy** resin compn. with  
very good foaming property (180°, 60 s), which was  
**powder** coated on a spring washer, simultaneously cured and  
blown by hot-air drying at 120° for 60 min, molded into a  
mixt. of a liq. **epoxy** resin (**epoxy** equiv 200)  
and an arom. amine hardener, and cured at 100° for 120 min to  
show no. of crack 0/10 in the heat cycle test (-40° +  
30 min and 140° + 30 min, 20 cycles), compared with  
10/10 for a compn. without I.
- IT **80-51-3**, p,p'-Oxybis(benzenesulfonyl hydrazide)  
(blowing agents, powd. **epoxy** resin sealing compns.  
contg., expandable, for electronic parts)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)





- IC ICM C08J009-04  
ICS C08G059-18; C08L063-00; H01L023-30
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 76
- ST powd **epoxy** resin electronic packaging; bisphenol  
**epoxy** resin potting; azodicarbonamide blowing agent  
**epoxy** resin
- IT Blowing agents  
(powd. **epoxy** resin compns. contg., expandable, for  
sealing electronic parts)
- IT Potting compositions  
(powd. **epoxy** resins contg. blowing agents, expandable,  
for electronic parts)
- IT **Epoxy** resins, uses and miscellaneous  
(alicyclic, potting compns., contg. blowing agents, expandable,  
for electronic parts)
- IT **Epoxy** resins, uses and miscellaneous  
(bisphenol-based, potting compns., contg. blowing agents,  
expandable, for electronic parts)
- IT Phenolic resins, uses and miscellaneous  
(**epoxy**, novolak, potting compns., contg. blowing  
agents, expandable, for electronic parts)
- IT **Epoxy** resins, uses and miscellaneous  
(phenolic, novolak, potting compns., contg. blowing agents,  
expandable, for electronic parts)
- IT 80-51-3, p,p'-Oxybis(benzenesulfonyl hydrazide) 101-25-7,  
N,N'-Dinitrosopentamethylenetetramine 123-77-3, Azodicarbonamide  
(blowing agents, powd. **epoxy** resin sealing compns.  
contg., expandable, for electronic parts)
- IT 110-54-3, n-Hexane, uses and miscellaneous  
(blowing agents, with butane, powd. **epoxy** resin sealing  
compns. contg., expandable, for electronic parts)
- IT 106-97-8, Butane, uses and miscellaneous  
(blowing agents, with hexane, powd. **epoxy** resin sealing  
compns. contg., expandable, for electronic parts)

L53 ANSWER 15 OF 25 HCA COPYRIGHT 2004 ACS on STN

105:44362 Joining of metal plates. Yamamoto, Kazuhiko; Asoshina,  
Hideshi; Rokusha, Tadahiro; Tominaga, Takashi (Nitto Electric

Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61041537 A2 19860227 Showa, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1984-163738 19840802.

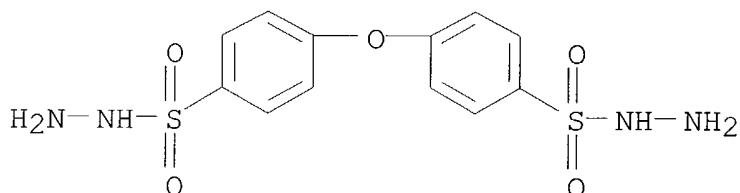
AB In easy joining of metal plates, an adhesive sheet comprising an **epoxy** resin, an elec. conductive filler, a curing agent, and a blowing agent is applied to the plate before processing and electrophoretic coating and cured while the coating layer is baked. The foamed adhesive gives strong bonding between metals by filling a gap between them. Thus, a 0.3-mm adhesive sheet comprising Epikote 871 80, Epikote 1001 20, dicyandiamide 5, Curazol 2MZ-Azine (curing agent) 5, FE 9 (blowing agent) 0.5, powd. graphite 100, and powd. asbestos 3 parts was used in joining of steel plates. After electrophoretically coating with an **epoxy** resin and baked, joined plates exhibited good corrosion resistance.

IT **80-51-3**

(blowing agents, elec. conductive **epoxy** resin adhesive sheets contg., in joining of steel plates)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM B32B015-01

ICS B62D025-10; C09J005-06

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 55

ST graphite **epoxy** resin adhesive; steel plate joining adhesive; electroconductive cellular **epoxy** resin adhesive

IT **Epoxy** resins, uses and miscellaneous

(adhesive sheets from, contg. elec. conductive **powders** and blowing agents, in joining of steel plates)

IT **Adhesives**

(cellular, elec. conductive, **epoxy** resin sheets, contg. graphite and blowing agents, in joining of steel plates)

IT 9085-51-2 25068-38-6

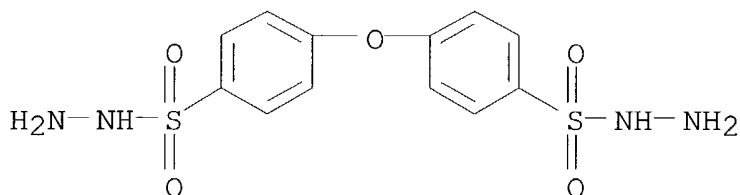
(adhesive sheets from, contg. elec. conductive **powders** and blowing agents, in joining of steel plates)

IT **80-51-3**

(blowing agents, elec. conductive **epoxy** resin adhesive sheets contg., in joining of steel plates)

IT 7782-42-5, uses and miscellaneous

- (**epoxy** resin adhesive sheets contg. blowing agents and, in joining of steel plates)
- IT 12597-69-2, uses and miscellaneous  
(plates, joining of, elec. conductive cellular **epoxy** resin adhesive sheets in)
- L53 ANSWER 16 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 102:80518 Expandable shaped semiconductive sealants. (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59179536 A2 19841012 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-54939 19830329.
- AB The sealants are composed of (1) a reaction product of 30-80% **epoxy** resin and 20-70% rubbery component, the rubbery component consisting mainly of a rubbery polymer, liq. at normal temp. and contg. carboxyl groups; (2) a foaming agent; (3) a curing agent; and (4) a semiconductive filler present at 20-60% of the total. The sealants have vol. resistivity 104-1012  $\Omega$  cm and expand 1.1-10-fold upon heating. The sealants are preformed into shapes, adhered to the portions to be sealed, and expanded by heating to produce excellent sealing effects, and metal parts thus sealed can be spot-welded or coated by electrodeposition. Thus, a reaction product of 50 parts Epikote 1002 and 50 parts carboxyl-contg. nitrile rubber (Hycar CTBN 1300+8) was mixed with dicyandiamide 5, 3-(p-chlorophenyl)-1,1-dimethylurea 3, a foaming agent (Neocellborn-P 1000 [81775-94-2]) 2, and graphite **powder** 100 parts and pressed into a sheet to obtain an uncured sealant which had vol. resistivity  $2.3 \times 10^6$   $\Omega$  cm and expanded 2-fold when heated at 170°.
- IT 80-51-3  
(blowing agents, for semiconductive sealing compns. contg. **epoxy** resin-carboxylated nitrile rubber reaction products)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC C08J009-06; H01B001-20
- CC 42-11 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 38, 39, 55, 56, 76
- ST expandable semiconductive sealant; **epoxy** carboxylated

nitrile rubber sealant; graphite semiconductive filler sealant;  
Neocellborn blowing agent sealant

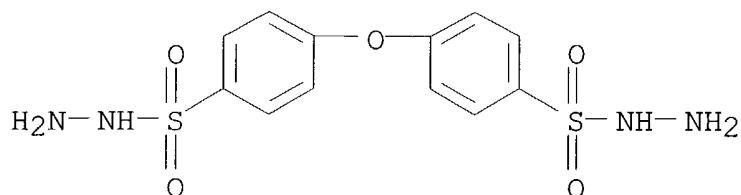
- IT Sealing compositions  
(expandable, semiconductive, contg. **epoxy**  
resin-carboxy-terminated nitrile rubber reaction products and  
graphite or carbon)
- IT **Epoxy** resins, compounds  
(reaction products with carboxy-terminated nitrile rubber,  
expandable semiconductive sealing compns. contg.)
- IT Rubber, nitrile, compounds  
(carboxy-terminated, reaction products with **epoxy**  
resins, expandable semiconductive sealing compns. contg.)
- IT **80-51-3**  
(blowing agents, for semiconductive sealing compns. contg.  
**epoxy** resin-carboxylated nitrile rubber reaction  
products)

L53 ANSWER 17 OF 25 HCA COPYRIGHT 2004 ACS on STN

100:69482 Sheet metal-reinforcing adhesive sheets. (Nitto Electric  
Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58118878 A2  
19830715 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1982-2141 19820109.

AB Thermosetting adhesive strips which increase the rigidity of sheet  
metal panels (e. g., automobile body panels) without distorting them  
due to shrinkage on curing are laminates of any **epoxy**  
resin layer with a second adhesive layer contg. a blowing agent.  
Thus, Epikote 828 and Epikote 1002 [25068-38-6] (**epoxy**  
resins) 85, Vylon 500 [72270-15-6] (polyester) 15, hardeners 10,  
talc 5, and powd. asbestos 2 parts were mixed, pressed into a sheet  
0.4 mm thick, and laminated with a glass fiber mat. Epikote 871 (I)  
[9085-51-2] 70, Epikote 1002 30, hardener 5, talc 50, powd. asbestos  
3, and Vinifor AK2 [80702-90-5] (blowing agent) 1 part were mixed,  
pressed into a sheet 1 mm thick, and laminated with the  
glass-reinforced sheet, and strips were pressed (I side down)  
against a 0.7-mm steel sheet and cured at 150° for 60 min to  
obtain a panel showing no signs of distortion, and having flexural  
stress at 500 mm deflection 33 kg, compared with 8 kg for the  
unreinforced steel.

- IT **80-51-3**  
(blowing agents, for **epoxy** resin laminated reinforcing  
ribs for sheet metal panels, resistant to shrinkage on curing)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



- IC C09J007-00; C09J003-16; C09J005-00  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 55  
 ST sheet metal reinforcing adhesive rib; steel panel stiffener  
**epoxy** laminate; shrinkage resistance cellular **epoxy**  
 laminate; automobile body panel **epoxy** reinforced  
 IT Polyamides, uses and miscellaneous  
 Polyesters, uses and miscellaneous  
 (**epoxy** resin blends, thermosetting foam laminates, as  
 reinforcing ribs for sheet metal panels, resistant to shrinkage  
 on curing)  
 IT Glass fibers, uses and miscellaneous  
 (**epoxy** resin sheets reinforced with, cellular  
 thermosetting adhesive laminates, as stiffening ribs for sheet  
 metal panels, resistant to shrinkage on curing)  
 IT Plastics, laminated  
 (**epoxy** resin-thermosetting foam, as reinforcing ribs  
 for sheet metal panels, resistant to shrinkage on curing)  
 IT **Adhesives**  
 (**epoxy** resins, cellular, in laminated reinforcing ribs  
 for sheet metal panels, resistant to shrinkage on curing)  
 IT **Epoxy** resins, uses and miscellaneous  
 (thermosetting foam laminates, as reinforcing ribs, for sheet  
 metal panels, resistant to shrinkage on curing)  
 IT Automobiles  
 (body panels, reinforcing ribs for, cellular **epoxy**  
 resin laminates as, resistant to shrinkage on curing)  
 IT Rubber, nitrile, uses and miscellaneous  
 (carboxy-terminated, thermosetting resin blends, cellular,  
**epoxy** resin laminates, as reinforcing ribs for sheet  
 metal panels, resistant to shrinkage on curing)  
 IT **80-51-3** 80702-90-5  
 (blowing agents, for **epoxy** resin laminated reinforcing  
 ribs for sheet metal panels, resistant to shrinkage on curing)  
 IT 9085-51-2 11121-15-6  
 (cellular, **epoxy** resin laminates, as adhesive  
 reinforcing ribs, for sheet metal panels, resistant to shrinkage  
 on curing)  
 IT 25035-04-5 72270-15-6

(**epoxy** resin blends, thermosetting foam laminates, as reinforcing ribs for sheet metal panels, resistant to shrinkage on curing)

IT 12597-69-2, uses and miscellaneous  
(sheet, automobile body panels, cellular **epoxy** resin laminate reinforcing ribs for, resistant to shrinkage on curing)

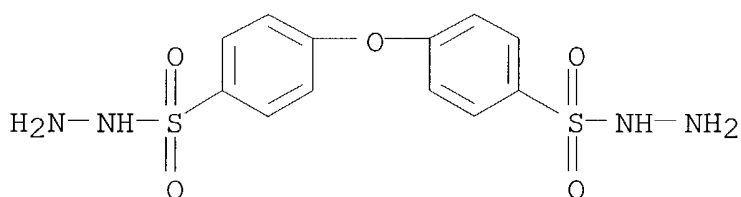
L53 ANSWER 18 OF 25 HCA COPYRIGHT 2004 ACS on STN  
100:35627 Bonding of rubber to metals. (Meiji Rubber and Chemical Co., Ltd., Japan). Jpn. Kokai Tokyo Koho JP 58126152 A2 19830727 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-8969 19820125.

AB Good bonding of curved metal to rubber is effected by coating metal articles with adhesives, top coating with rubber compns. contg. blowing agents, attaching to rubber sheets, and heating the assemblies. Thus, an Al cylinder was coated with an **epoxy** resin compn., top-coated with a compn. of nitrile rubber 100, ZnO 5, stearic acid 1, carbon black 90, bis(butoxyethoxyethyl) sebacate 15, S 1.5, dibenzothiazolyl disulfide 1.5, OBSH [80-51-3] 1, and MeCOEt 300 parts, inserted in a vulcanized rubber tube, and microwave heated 10 s at 150° to form a bond with peel strength 2.1 kN/m.

IT **80-51-3**  
(blowing agents, nitrile rubber adhesives contg., for bonding of curved metals to vulcanized rubber)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC B32B015-06; B29H009-10; B32B025-04; C09J005-08

CC 39-9 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 38, 55

ST aluminum cylinder rubber bonding; **epoxy** foamable nitrile rubber adhesive

IT **Epoxy** resins, uses and miscellaneous  
(adhesives contg. foamable nitrile rubber and, for bonding of curved metals to vulcanized rubber)

IT Rubber, synthetic  
(adhesives for bonding of, to curved metals, **epoxy** resin-foamable nitrile rubber 2-layer)

IT **Adhesives**

(**epoxy** resin-foamable nitrile rubber 2-layer, for bonding of curved metals to vulcanized rubber)

## IT Rubber, natural, uses and miscellaneous

(vulcanizates, adhesives for bonding of, to curved metals, **epoxy** resin-foamable nitrile rubber 2-layer)

## IT 7429-90-5, uses and miscellaneous 12597-71-6, uses and miscellaneous

(adhesives for bonding of cylinders of, to vulcanized rubber, **epoxy** resin-foamable nitrile rubber 2-layer)

IT **80-51-3**

(blowing agents, nitrile rubber adhesives contg., for bonding of curved metals to vulcanized rubber)

L53 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN

99:39972 Composition for sealing joints. Shah, Kanu Gopalji (Dana Corp., USA). Fr. Demande FR 2512736 A1 19830318, 17 pp. (French). CODEN: FRXXBL. APPLICATION: FR 1981-17324 19810914.

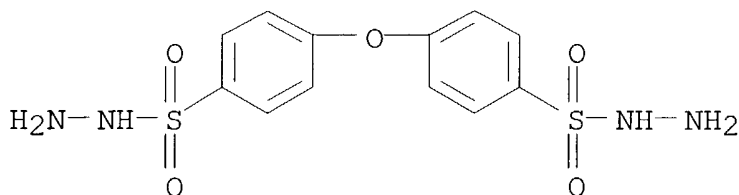
AB Compns. forming compressable, elastic, cellular seals contain powd., thermosetting resins and blowing agents. Thus, bisphenol A diglycidyl ether polymer [25085-99-8] (**epoxy** equiv. wt. 750) 61.00, amine curing agent 3.35, flow modifier 2.21, colloidal silica 0.30, TiO<sub>2</sub> 31.0, and phthalocyanine pigment 2.14% were milled to **particle** size  $\leq 0.149$  mm, mixed with 0.5% O(C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>NHNH<sub>2</sub>-p)<sub>2</sub> [**80-51-3**] blowing agent, electrostatically sprayed on a steel joint, and heated at 170° to give a compressable, elastic coating on the joint.

IT **80-51-3**

(blowing agent, for thermosetting resin sealants)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)

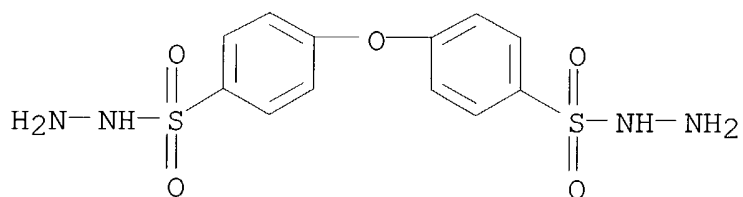


IC B32B031-20; B32B005-18; B32B015-08; B32B027-36; B32B027-38; B32B027-40; C08J009-04; F16J015-14

CC 42-11 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 55

ST **epoxy** resin foam sealant; steel joint sealant; joint sealant resin foam; sulfonyl hydrazide blowing agent; blowing agent resin sealant

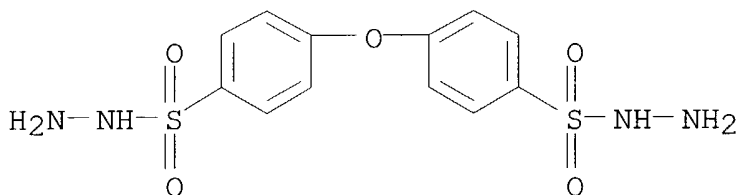
- IT **Epoxy** resins, uses and miscellaneous  
(cellular, sealants for joints)
- IT **80-51-3** 101-25-7 123-77-3 1576-35-8 10105-42-7  
10396-10-8 18039-42-4  
(blowing agent, for thermosetting resin sealants)
- L53 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 96:200952 Expandable adhesive sheets. (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 57012082 A2 19820121 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1980-87522 19800626.
- AB Expandable adhesive sheets are prepd. by forming a sheet from mixts. contg. a thermosetting resin, a crosslinking agent, and a blowing agent. These sheets are useful for bonding metal sheets. Thus, 100 parts blend contg. 100 parts Epikote 828 [25068-38-6] and 30 parts PKHH (**epoxy** resin) was mixed with asbestos 10, dicyanodiamide [461-58-5] 6, DV Hardener [73904-99-1] 3, and diazenedicarboxamide (I) [123-77-3] 1.5 parts. Glass fabric was coated with the mixed compn., sandwiched between Al plate and a screen, and heated 20 min at 140° to give a joined plate having layer bond strength 10.8 kg/25 mm, compared with 7.0 kg/25 mm for a laminate joined with a similar compn. without I.
- IT **80-51-3**  
(blowing agents, **epoxy** resin adhesives contg.)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC C09J003-16
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 55, 56
- ST **epoxy** cellular adhesive metal; aluminum adhesive cellular **epoxy**
- IT Metals, uses and miscellaneous  
(adhesives for, cellular **epoxy** resin sheets as)
- IT **Epoxy** resins, uses and miscellaneous  
(adhesives, cellular, for bonding of metal sheets)
- IT **Adhesives**  
(**epoxy** resins, cellular, sheets, for joining of metals)
- IT Rubber, nitrile, uses and miscellaneous



- (carboxylated, reaction products with **epoxy** resins, cellular, for bonding of metal sheets)
- IT 7429-90-5, uses and miscellaneous  
(adhesives for, cellular **epoxy** resin sheets as)
- IT **80-51-3** 123-77-3  
(blowing agents, **epoxy** resin adhesives contg.)
- IT 461-58-5 73904-99-1 81774-16-5  
(crosslinking agents, **epoxy** resin adhesives contg.)
- L53 ANSWER 21 OF 25 HCA COPYRIGHT 2004 ACS on STN
- 81:14400 Thermal insulator. Thomas, Colin Reginald; Nicholson, John  
(United Kingdom Atomic Energy Authority). Brit. GB 1339426  
19731205, 6 pp. (English). CODEN: BRXXAA. APPLICATION: GB  
1970-24298 19700519.
- AB Carbonizing a resin-bonded structure prepd. by heating a mixt. of phenol-formaldehyde resin microspheres and a phenolic novolak resin or heat-curable **epoxide** resin binder gave a porous low d. high compressive strength carbon [7440-44-0] insulator for use up to .sim.1200.deg.. The porosity of the insulator ensured a low thermal cond. Addn. of an expanding agent counteracted shrinkage of the mixt. during curing. **Particles** of cured phenolic resin added to the mixt. before curing further increased the insulators load-bearing strength by increasing the d. of the insulators. Thus, curing a mixt. of Epikote 1031 resin 14.37, diamino diphenyl sulfone curing agent 300, Genitron OB expanding agent 1.26, phenolic microspheres (BJO-0930) 13.51, and Birkby resin C641 67.86 wt. % and carbonizing at 1000.deg. gave a C insulator d. 0.52, compressive yield strength 1460 psi, and compressive modulus 41 .tim. 103 psi.
- IT **80-51-3**  
(expanding agents, for carbon thermal insulators from carbonization of resin-bonded phenolic microspheres)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC C01B
- CC 37-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 49
- IT **Epoxy** resins  
(carbon thermal insulators from carbonization of phenolic

microspheres bonded with)

IT **80-51-3**

(expanding agents, for carbon thermal insulators from carbonization of resin-bonded phenolic microspheres)

L53 ANSWER 22 OF 25 HCA COPYRIGHT 2004 ACS on STN

78:137274 Solid, **particulate** compositions for use in foamable polymeric materials. LaClair, Robert Carlyle (Uniroyal, Inc.). Ger. Offen. DE 2226646 19721214, 30 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1972-2226646 19720531.

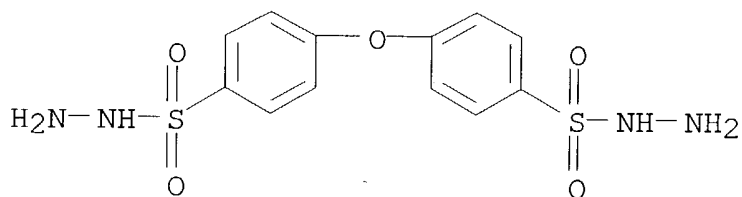
AB Blowing agents were mixed with inert inorg. compds. to give compns. which were readily dispersed in polymer compns. and produced foams free of surface imperfections which are due to incomplete dispersion of the blowing agent. Thus, 1% 0.012  $\mu$  silica [7631-86-9] **particles** were blended with azodicarbonamide [123-77-3] in a Waring blender and 2 parts free-flowing **powder** product was added to poly(vinyl chloride) [9002-86-2] resin dispersion 100, dioctyl phthalate 95, **epoxidized** soybean oil 5, and dibasic lead phthalate 3 parts. A 0.25 mm thick film of the resin compn. was applied to a metal plate and heated 1 min at 177.deg.. The film was free of surface imperfection that resulted when the blowing agent is incompletely dispersed.

IT **80-51-3**

(blowing agent, contg. inorg. dispersing agents)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C08J

CC 36-0 (Plastics Manufacture and Processing)

IT **80-51-3** 1576-35-8 10396-10-8

(blowing agent, contg. inorg. dispersing agents)

L53 ANSWER 23 OF 25 HCA COPYRIGHT 2004 ACS on STN

73:15914 **Epoxy** resin compositions. (Fujikura Cable Works, Ltd.). Brit. GB 1189567 19700429, 12 pp. (English). CODEN: BRXXAA. PRIORITY: JP 19670228 - 19670603 19670603.

AB **Epoxy** resin adhesives with good bonding and sealing properties, but which could be broken up by heating, were prepd. from a mixt. of an **epoxy** resin, a curing agent, and a

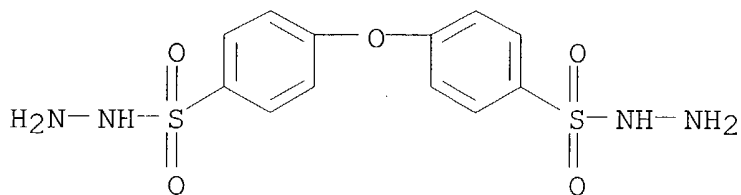
blowing agent, which was cured at a temp. below the activation temp. of the blowing agent. The resins were condensation products of epichlorohydrin and polyhydric alcs. or phenols, and were cured with diamines, polyamines, polyamide resins, and polysulfides. Conventional solid blowing agents, e.g. azobisisobutyronitrile and azodicarbamic acid amide, were used. The mixt. could also include thermoplastic polymers, e.g. polystyrene, ethylene-Et acrylate or -vinyl acrylate copolymers, and butyl rubber. The adhesives were used to seal cables or wires.

IT **80-51-3**

(blowing agents, for **epoxy** resin adhesives)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C08G

CC 37 (Plastics Fabrication and Uses)

ST epoxys heat release prepn; heat release prepn epoxys; adhesives **epoxy** resins

IT Resins, **epoxy**, uses and miscellaneous

(cellular, adhesives, for sealing cables)

IT Sealing compositions

(**epoxy** resin foams, for cables)

IT **Adhesives, uses and miscellaneous**

(**epoxy** resin foams, for sealing cables)

IT 78-67-1 **80-51-3** 123-77-3 1576-35-8

(blowing agents, for **epoxy** resin adhesives)

L53 ANSWER 24 OF 25 HCA COPYRIGHT 2004 ACS on STN

68:40548 Storage-stable, solid, foamable **epoxy**-amine

composition. (Ontario Research Foundation). Brit. GB 1097756

19680103, 4 pp. (English). CODEN: BRXXAA. PRIORITY: US 19640219.

AB Blowing agents comprising diphenyl ether 4,4'-disulfonyl hydrazide (I), diphenyl sulfone 3,3'-disulfonyl hydrazide (II), azobisformamide, or mixts. of I or II with 1-phenyl-3-p-tolyltriazene or of I with 1,3-di-p-tolyltriazene are used with tetrakis(glycidyloxy)tetraphenylethane (III) and bis(aminophenyl) sulfone (IV) to prep. the title compns. which will, upon initiation of foaming, heatcure rapidly to give low d., rigid or semi-rigid foams. Uses of the compns. include prepn. of self-expandable sheet.

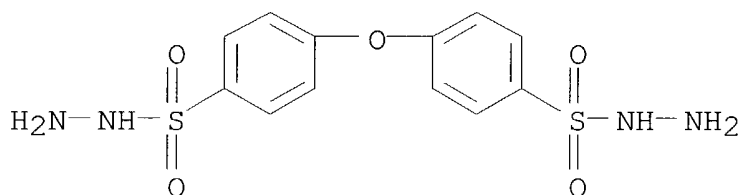
Thus, 25 g. III (<60 mesh) was milled with IV 6.2, I 1.7, diazoaminobenzene 1.7, and a nonionic surfactant (Pluronic F-68) 0.5 g. All ingredients were **powders**. The compn. was unaffected by being stored for 15 months at 70°. The compn. was heated in a 150° oven. Foaming was initiated when the temp. of the compn. reached 110° and was complete within 5 min. The d. of the foam was 4.0 lb./ft.<sup>3</sup> In some compns., Al **powder** or talc is used as a filler, and solid octylphenol is used to give a more even foam rise.

IT 80-51-3

(as blowing agent, storage-stable and foamable **epoxy** -amine compns. contg.)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C08G

CC 36 (Plastics Manufacture and Processing)

IT Resins, **epoxy**, preparation

(cellular and foam and porous, storage-stable and foamable **epoxy** compd. mixts. with amines and blowing agents for)

IT 80-51-3 123-77-3 622-74-2 785-86-4 3375-11-9

(as blowing agent, storage-stable and foamable **epoxy** -amine compns. contg.)

IT 27133-91-1

(as curing agent for **epoxy** resins, foamable, storage-stable mixts. with blowing agents and **epoxy** compds.)

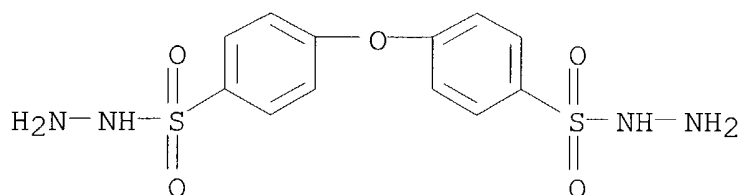
L53 ANSWER 25 OF 25 HCA COPYRIGHT 2004 ACS on STN

53:128491 Original Reference No. 53:23073h-i,23074a-b Porous resin compositions. Atticks, John K. (United Aircraft Corp.). US 2895173 19590721 (Unavailable). APPLICATION: US .

AB Low-d. plastic compns. having high compression and tensile strength at up to 300°F., high impact strength at as low as -65°F., and suitable shrinkage resistance are described. They can be cured in open ovens and are suitable for loading into cavities of preformed bodies such as airplane components, esp. hollow-steel propellers, where they reduce or eliminate differences between metal and plastic. They are obtained by curing a mixt. of a

low d. matrix of 20-95%, preferably 25%, short org. fibers in 80-5% of a compatible cementing resin with **pellets** contg. an expanding agent. Suitable org. fibers include nylon, Dacron, or Orlon as flock or bristles 0.01-1.0 mm. in diam. and 0.01-50 mm. long. The cementing resins may be Durez 12686 or 13037 or Araldite An-100, and the expanding agent may be hexamethylenetetramine, azodiisobutyronitrile, or 4,4'-oxybis(benzenesulfonyl hydrazide) (I). Thus, 85 parts of a matrix consisting of nylon flock 25 and nylon resin 75% was blended with 15 parts **pelleted** dispersed-phase material consisting of Hycar OR15 100, Durez 12686 90, Durez 13037 40, hexamethylenetetramine 9, and I 10 parts. The mixt. was cured in an open oven for 1 hr. at 330°F. to form a low-d. product.

IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
(as foaming agent for resin mixts. with synthetic fibers)  
RN 80-51-3 HCA  
CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



CC 31 (Synthetic Resins and Plastics)  
IT **Epoxy** resins  
(resins (porous) from synthetic fibers and Araldite An-100)  
IT **80-51-3**, Benzenesulfonic acid, 4,4'-oxydi-, dihydrazide  
(as foaming agent for resin mixts. with synthetic fibers)

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L54 ANSWER 1 OF 11 HCA COPYRIGHT 2004 ACS on STN

139:118446 Thermobonding cellular **film** and process for manufacture. Goupille, Alex; Lescroart, Vianney; Pruvot, Fabien (Prochimir, Fr.). Fr. Demande FR 2834994 A1 20030725, 22 pp. (French). CODEN: FRXXBL. APPLICATION: FR 2002-664 20020121.

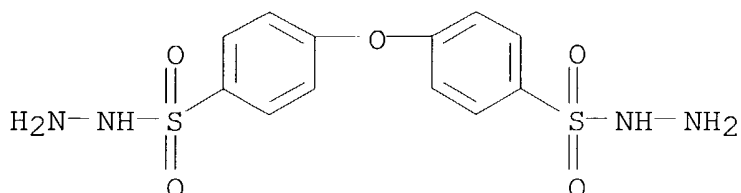
AB **Adhesive films** with increased flexibility for thermobonding substrates such as textiles are manufd. by extrusion of thermoplastics contg. blowing agents so as to form cellular **films**.

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonyl hydrazide)  
(blowing agent; extruded thermoplastic **films** contg. blowing agents for manuf. of cellular **films** for

thermobonding of textiles)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C09J005-06

ICS C09J007-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 40

ST thermobonding cellular thermoplastic **adhesive film**  
textile

IT **Adhesive films**

Blowing agents

Textiles

(extruded thermoplastic **films** contg. blowing agents for  
manuf. of cellular **films** for thermobonding of textiles)

IT Extruded plastics

Plastic foams

Polyamides, uses

Polyesters, uses

Polyethers, uses

**Polyurethanes**, uses

Rubber, uses

(extruded thermoplastic **films** contg. blowing agents for  
manuf. of cellular **films** for thermobonding of textiles)

IT 77-92-9, Citric acid, uses

(blowing agent activator; extruded thermoplastic **films**  
contg. blowing agents for manuf. of cellular **films** for  
thermobonding of textiles)

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonyl hydrazide) 101-25-7,

N,N-Dinitrosopentamethylenetetramine 123-77-3, Azodicarbonamide

1576-35-8, p-Toluenesulfonyl hydrazide 10396-10-8,

p-Toluenesulfonyl semicarbazide 18039-42-4, 5-Phenyltetrazole

(blowing agent; extruded thermoplastic **films** contg.  
blowing agents for manuf. of cellular **films** for  
thermobonding of textiles)

IT 144-55-8, Sodium bicarbonate, uses

(extruded thermoplastic **films** contg. blowing agents for  
manuf. of cellular **films** for thermobonding of textiles)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene

(extruded thermoplastic **films** contg. blowing agents for  
manuf. of cellular **films** for thermobonding of textiles)

L54 ANSWER 2 OF 11 HCA COPYRIGHT 2004 ACS on STN

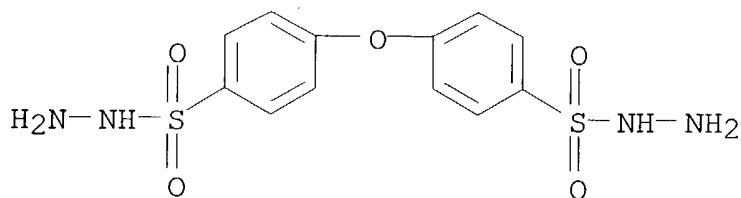
132:181456 Expandable **epoxy** resin compositions and reinforcing  
of automobile bodies therewith. Ishida, Koichiro; Ogoshi, kazuki;  
Suzuki, Katsuhiko; Fukui, Takayuki (Parker Corp., Japan; Asahi  
Rubber K. K.; Nissan Motor Co., Ltd.). Jpn. Kokai Tokkyo Koho JP  
2000063555 A2 20000229, 23 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1998-228137 19980812.

AB The compns. comprise (A) 100 parts mixt. of bisphenol A-type  
**epoxy** resin and its dimer acid-modified products, (B) 2-30  
parts fibers with length 1-6 mm and diam. 5-200  $\mu$ m, (C) 10-50  
parts powd. methacrylate polymers, (D) 3-30 parts **epoxy**  
resin thermal curing agents, (E) 0.5-15 parts **epoxy** resin  
thermal curing catalysts, (F) 0.5-15 parts thermally decomposable  
org. blowing agents, (G) 50-200 parts inorg. fillers, (H) 2-15 parts  
bubble inhibitors, and (I) 2-15 parts carbon black. Automobile  
bodies having box-type parts made of steel **sheets** are  
reinforced with the compns. by placing the compns. on the steel  
**sheet**, assembling boxes, electrodepositing the boxes, and  
baking the electrodeposits simultaneously with expanding the compns.  
Thus, a compn. of cut glass fiber bundles (fiber diam. 12  $\mu$ m,  
length 2 mm) 4, a mixt. of bisphenol A **epoxy** resin and its  
C34 dimer acid-modified product 100, powd. PMMA 30, dicyandiamide  
11, a polyamine 6, azodicarbonamide 6, Ca silicate 130, CaO 9, and  
carbon black 9 parts showed excellent **adhesion** to steel  
**sheets** due to high uniformity of cells.

IT **80-51-3**, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(blowing agent; expandable **epoxy** resin compns. for  
reinforcing automobile bodies)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



IC ICM C08J009-06

ICS B05C009-14; B29C067-20; B32B015-08; C08K003-04; C08K007-02;  
C08L063-02; C08L033-00; B29K063-00; B29K105-04; B29K105-12;  
B29L031-30; C08L063-00

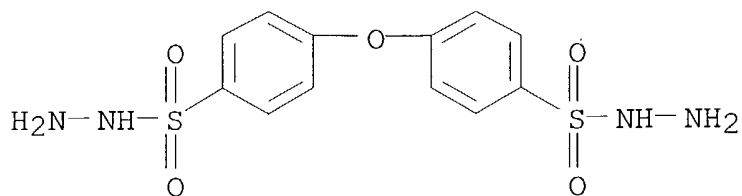
CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 55

- ST PMMA blend **epoxy** resin expandable; glass fiber filler expandable **epoxy** resin; automobile body reinforcement **epoxy** resin foam; dimer acid modified **epoxy** resin expandable
- IT Synthetic fibers  
(aluminum oxide; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Polyamide fibers, uses  
(aramid; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Automobiles  
(bodies; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Synthetic fibers  
(boron; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Synthetic fibers  
(ceramic; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Fatty acids, preparation  
(dimer acids, reaction products, with **epoxy** resins and dicyandiamide; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT **Epoxy** resins, preparation  
(expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Plastic foams  
(expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Carbon black, uses  
Carbon fibers, uses  
Glass fibers, uses  
(expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Ceramics  
(fibers; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT Amines, uses  
(polyamines, nonpolymeric, crosslinking catalysts; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT 80-51-3, 4,4'-Oxybis(benzenesulfonylhydrazide) 123-77-3, Azodicarbonamide  
(blowing agent; expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT 12597-69-2, Steel, uses  
(expandable **epoxy** resin compns. for reinforcing automobile bodies)

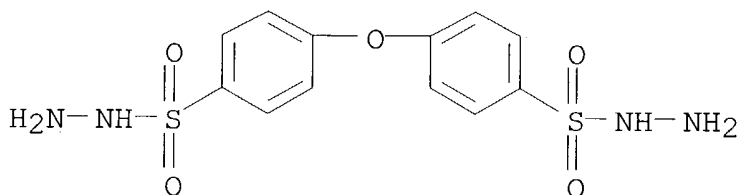


- IT 461-58-5DP, Dicyandiamide, polymers with **epoxy** resins  
25068-38-6DP, Bisphenol A **epoxy** resin, polymers with dimer  
acid-modified **epoxy** resins and dicyandiamide  
(expandable **epoxy** resin compns. for reinforcing  
automobile bodies)
- IT 1305-78-8, Calcium oxide, uses 1344-95-2, Calcium silicate  
9011-14-7, Methyl methacrylate homopolymer  
(expandable **epoxy** resin compns. for reinforcing  
automobile bodies)
- IT 1344-28-1, Alumina, uses 7440-42-8, Boron, uses  
(fiber; expandable **epoxy** resin compns. for reinforcing  
automobile bodies)
- L54 ANSWER 3 OF 11 HCA COPYRIGHT 2004 ACS on STN  
131:244113 Expandable **epoxy** resin compositions and reinforcing  
of automobile bodies therewith. Ishida, Koichiro; Ogoshi, Kazuki;  
Suzuki, Katsuhiko; Fukui, Takayuki (Parker Corp., Japan; Asahi  
Corp.; Nissan Motor Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 11263865  
A2 19990928 Heisei, 18 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1998-68414 19980318.
- AB The compns. comprise (A) mixts. of bisphenol A-type **epoxy**  
resins and dimer acid-modified bisphenol A-type **epoxy**  
resins 100, (B) powd. methacrylate polymers 10-50, (C) **epoxy**  
resin thermal curing agents 3-30, (C) **epoxy** resin thermal  
curing catalysts 0.5-15, (E) thermally decomposable org. blowing  
agents 0.5-15, (F) inorg. fillers 50-200, (G) bubble inhibitors  
2-15, and (H) carbon black 2-15 parts. Automobile bodies having  
box-type parts made of steel **sheets** are reinforced with  
the compns. by (1) placing the compns. on the steel **sheet**,  
(2) assembling boxes, (3) electrodepositing the boxes, and (4)  
baking the electrodeposits simultaneously with expanding the compns.  
Thus, a compn. of powd. PMMA 15, a mixt. of bisphenol A  
**epoxy** resin (I) and dimer acid-modified I 100, dicyandiamide  
11, a polyamine 6, 4,4'-oxybenzenesulfonylhydrazide 6, Ca silicate  
130, CaO 9, and carbon black 9 parts showed excellent  
**adhesion** to steel **sheets** due to high uniformity of  
cells.
- IT 80-51-3, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(blowing agent; methacrylate polymer-dispersed expandable  
**epoxy** resin compns. for reinforcing automobile bodies)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
NAME)



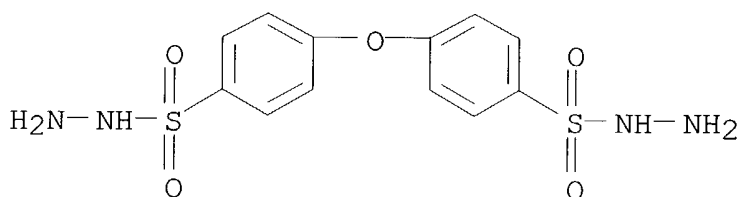
- IC ICM C08J009-06  
ICS B05D007-24; B29C044-00; B32B005-20; B32B015-08; B62D029-04;  
C08K003-00; C08L063-00
- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 55
- ST PMMA disperse **epoxy** resin foam manuf; automobile body  
reinforcement **epoxy** resin foam; dimer acid **epoxy**  
resin foam
- IT Automobiles  
(bodies; methacrylate polymer-dispersed expandable **epoxy**  
resin compns. for reinforcing automobile bodies)
- IT Fatty acids, properties  
(dimer acids, reaction products, with **epoxy** resins;  
methacrylate polymer-dispersed expandable **epoxy** resin  
compns. for reinforcing automobile bodies)
- IT Plastic foams  
(methacrylate polymer-dispersed expandable **epoxy** resin  
compns. for reinforcing automobile bodies)
- IT Carbon black, uses  
(methacrylate polymer-dispersed expandable **epoxy** resin  
compns. for reinforcing automobile bodies)
- IT **Epoxy** resins, properties  
(methacrylate polymer-dispersed expandable **epoxy** resin  
compns. for reinforcing automobile bodies)
- IT Amines, uses  
(polyamines, nonpolymeric, crosslinking catalyst; methacrylate  
polymer-dispersed expandable **epoxy** resin compns. for  
reinforcing automobile bodies)
- IT 80-51-3, 4,4'-Oxybis(benzenesulfonylhydrazide)  
(blowing agent; methacrylate polymer-dispersed expandable  
**epoxy** resin compns. for reinforcing automobile bodies)
- IT 1305-78-8, Calcium oxide, uses  
(bubble inhibitor; methacrylate polymer-dispersed expandable  
**epoxy** resin compns. for reinforcing automobile bodies)
- IT 461-58-5, Dicyandiamide  
(crosslinking agent; methacrylate polymer-dispersed expandable  
**epoxy** resin compns. for reinforcing automobile bodies)
- IT 1344-95-2, Calcium silicate  
(filler; methacrylate polymer-dispersed expandable **epoxy**

- resin compns. for reinforcing automobile bodies)
- IT 12597-69-2, Steel, uses  
(methacrylate polymer-dispersed expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT 9011-14-7, Poly(methyl methacrylate)  
(methacrylate polymer-dispersed expandable **epoxy** resin compns. for reinforcing automobile bodies)
- IT 25068-38-6, Bisphenol A **epoxy** resin 25068-38-6D,  
Bisphenol A **epoxy** resin, dimer acid esters  
(methacrylate polymer-dispersed expandable **epoxy** resin compns. for reinforcing automobile bodies)
- L54 ANSWER 4 OF 11 HCA COPYRIGHT 2004 ACS on STN
- 126:213226 Expandable vibration damping materials. Malcolm, Collin C. (Dexter Corp., USA). Can. Pat. Appl. CA 2171160 AA 19961027, 33 pp. (English). CODEN: CPXXEB. APPLICATION: CA 1996-2171160 19960306. PRIORITY: US 1995-429313 19950426.
- AB The title relatively inexpensive multi-purpose expandable vibration damping material compns. are particularly useful in constrained **layer** applications. The compns. essentially include an elastomeric polymer, plasticizer, thermoplastic polymer, foaming agent, **adhesion** promoter and filler. The expandable vibration damping material compns. may also employ rheol. modifiers such as crosslinking agents and **epoxy** curing agents.
- IT 80-51-3  
(blowing agents; inexpensive multi-purpose expandable vibration damping materials)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C08L021-00  
ICS C08L101-00; B29C067-24; B32B031-26
- CC 39-15 (Synthetic Elastomers and Natural Rubber)  
Section cross-reference(s): 37, 38
- IT **Epoxy** resins, uses  
(phenolic, novolak, **adhesion** promoting agents;  
inexpensive multi-purpose expandable vibration damping materials)
- IT Ionomers  
(zinc, **adhesion** promoting agents; inexpensive

- multi-purpose expandable vibration damping materials)
- IT 28208-80-2, Aclyn 293A 37348-52-0, Den 431 56275-19-5, Wingtack 95  
(adhesion promoting agents; inexpensive multi-purpose expandable vibration damping materials)
- IT 80-51-3 123-77-3, Celogen AZ 130 188070-58-8, Celogen 765  
(blowing agents; inexpensive multi-purpose expandable vibration damping materials)
- L54 ANSWER 5 OF 11 HCA COPYRIGHT 2004 ACS on STN  
126:200460 Double-stick adhesive sheets  
with a polymer foam substrate. Lindner, Edgar (Lohmann G.m.b.H. & Co K.-G., Germany). Ger. Offen. DE 19527923 A1 19970130, 5 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1995-19527923 19950729.
- AB The foam substrate, preferably a **polyurethane**, contains microballoons to improve the **adhesion** between the substrate and the **adhesive**. A suitable substrate was prep'd. from Impranil HS 62 1000, Imprafix HS-C 62, pigment 40, Levacast Fluid SN 10, Acronal L 700 5, Tinuvin 765 5, Celogen OT 20 parts, and 4-6% Dualite M 6017AE (acrylonitrile copolymer microballoons).
- IT 80-51-3  
(double-stick adhesive sheets with  
polymer foam substrate contg. microballoons)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM C09J007-02  
ICS C09J133-04; C09J175-04; C09J183-04; C09J121-00; C08J009-32;  
C08L075-04; B29C065-50; F16B011-00
- ICA B60R013-00; B60R013-04
- CC 38-3 (Plastics Fabrication and Uses)
- ST **polyurethane** foam substrate **adhesive**  
**sheet**; microballoon filler **polyurethane** foam;  
acrylonitrile copolymer microballoon
- IT **Polyurethanes**, uses  
(cellular; double-stick adhesive  
**sheets** with polymer foam substrate contg. microballoons)

- IT **Adhesive films**  
 (double-stick adhesive sheets with  
 polymer foam substrate contg. microballoons)
- IT **Balloons**  
**Microspheres**  
 (microballoons; double-stick adhesive  
 sheets with polymer foam substrate contg. microballoons)
- IT **Automobiles**  
 (parts; double-stick adhesive sheets  
 with polymer foam substrate contg. microballoons for bonding of)
- IT 187851-89-4  
 (cellular; double-stick adhesive  
 sheets with polymer foam substrate contg. microballoons)
- IT **80-51-3** 152986-95-3, Dualite M 6017AE  
 (double-stick adhesive sheets with  
 polymer foam substrate contg. microballoons)

L54 .ANSWER 6 OF 11 HCA COPYRIGHT 2004 ACS on STN

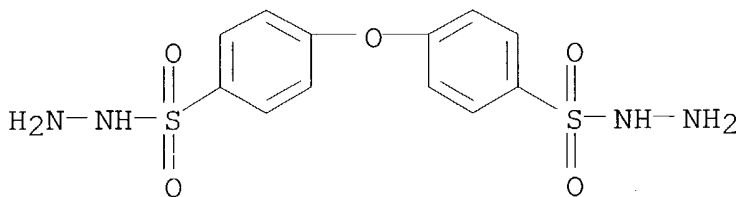
120:272704 **Epoxy** resin compositions, intermediates, and their  
 composite materials. Ooshima, Akio; Iwai, Sakuya; Sasaki, Koichiro  
 (Nippon Oil Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05310982 A2  
 19931122 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
 1992-146720 19920512.

AB The title composite materials are obtained by shaping title compns.,  
 with good storage stability at low temp., contg. **epoxy**  
 resins, microspheres, foaming agents, curing agents, curing  
 accelerators, and fibers to give **films** or **sheets**  
 as title intermediates, foaming, and curing. Thus, a compn. contg.  
 Epikote 828 2.8, Epikote 154 5.2, Scotchlite Glass Bubbles C 15/250  
 1.2, pitch-based C fiber 0.32, dicyandiamide 0.24,  
 p,p'-oxybis(benzenesulfonylhydrazide) 0.8, and 3-p-chlorophenyl-1,1-  
 dimethylurea 0.32 kg was shaped and composited with C fiber to give  
 a composite material with good interlayer **adhesion**.

IT **80-51-3**  
 (foaming agents, for **epoxy** resins, composite materials  
 from, with good interlayer **adhesion**)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
 NAME)



- IC ICM C08J009-04  
ICS B32B005-18; C08K007-02; C08K007-22; C08L063-00  
ICI C08L063-00  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 57  
ST **epoxy** resin cellular composite **sheet**;  
**film epoxy** resin cellular composite; fiber  
**epoxy** resin storage stability  
IT **Epoxy** resins, uses  
(cellular, contg. fibers, **sheets** or **films**,  
for composite materials, with good interlayer **adhesion**  
and storage stability at low temp.)  
IT Glass, oxide  
(microspheres, proepoxy resins contg. fibers and, cellular,  
composite materials from, with good interlayer **adhesion**  
, Scotchlite Glass Bubbles C 15/250)  
IT Carbon fibers, uses  
(pitch-based, cellular **epoxy** resins contg., for good  
storage stability at low temp., composite materials from, with  
good interlayer **adhesion**)  
IT 7440-44-0  
(carbon fibers, pitch-based, cellular **epoxy** resins  
contg., for good storage stability at low temp., composite  
materials from, with good interlayer **adhesion**)  
IT 112094-53-8  
(cellular, contg. fibers, **sheets** or **films**,  
for composite materials, with good interlayer **adhesion**  
and storage stability at low temp.)  
IT 150-68-5, 3-p-Chlorophenyl-1,1-dimethylurea  
(curing accelerators, for cellular **epoxy** resins,  
composite materials from, with good interlayer **adhesion**  
)  
IT **80-51-3**  
(foaming agents, for **epoxy** resins, composite materials  
from, with good interlayer **adhesion**)
- L54 ANSWER 7 OF 11 HCA COPYRIGHT 2004 ACS on STN  
120:247067 **Epoxy** resin compositions, intermediates, and their  
composite materials. Ooshima, Akio; Iwai, Sakuya; Sasaki, Koichiro  
(Nippon Oil Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05310981 A2  
19931122 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1992-146719 19920512.
- AB The title composite materials are obtained by shaping title compns.  
contg. **epoxy** resins, foaming agents, curing agents, curing  
accelerators, and optionally reinforcements to give **films**  
or **sheets** as title intermediates, foaming, and curing.  
Thus, a compn. contg. Epikote 828 27, Epikote 1001 63, dicyandiamide  
3.5, p,p'-oxybis(benzenesulfonylhydrazide) 4.0, and

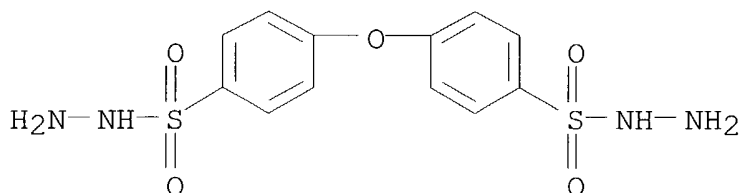
3-p-chlorophenyl-1,1-dimethylurea 2.5 parts was shaped and composited with C fiber to give a composite material with good interlayer **adhesion**.

IT **80-51-3**

(foaming agents, for **epoxy** resins, composite materials from, with good interlayer **adhesion**)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC ICM C08J009-04

ICS B32B005-18; C08K005-16; C08L063-00

ICI C08L063-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 57

ST **epoxy** resin cellular composite **sheet**;  
film **epoxy** resin cellular composite

IT **Epoxy** resins, uses

(cellular, **sheets** or **films**, for composite materials, with good interlayer **adhesion**)

IT Carbon fibers, uses

(**epoxy** resins reinforced with, cellular, composite materials from, with good interlayer **adhesion**)

IT 7440-44-0

(carbon fibers, **epoxy** resins reinforced with, cellular, composite materials from, with good interlayer **adhesion**)

IT 27754-24-1

(cellular, **sheets** or **films**, for composite materials, with good interlayer **adhesion**)

IT 150-68-5, 3-p-Chlorophenyl-1,1-dimethylurea

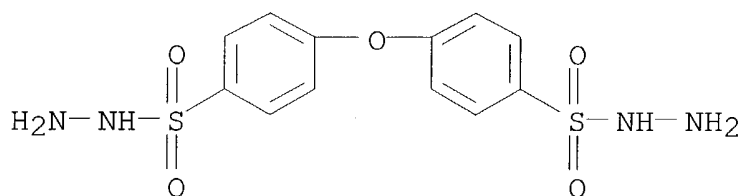
(curing accelerators, for cellular **epoxy** resins, composite materials from, with good interlayer **adhesion**)

IT **80-51-3**

(foaming agents, for **epoxy** resins, composite materials from, with good interlayer **adhesion**)

(INOAC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 04322603 A2 19921112 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-116982 19910419.

- AB Soft and oil-resistant puff impermeable to liq. foundation comprises a nitrile rubber sponge base with a closed-cell structure and flocked short fibers on  $\geq 1$  side. Filling a nitrile rubber compounding into a mold, vulcanizing 25 min at 125° and 25 min at 135°, slicing and punching to give a puff base, **coating** with a **polyurethane adhesive**, and elec. flocking with nylon short fibers (1 denier, 0.4-mm-long) gave a soft puff.
- IT **80-51-3**  
(blowing agent, in manuf. of nitrile rubber puff)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)

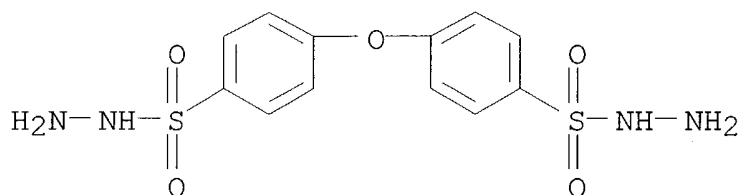


- IC ICM A45D034-04  
ICS A45D033-34; C08J009-04
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 62
- IT **80-51-3**  
(blowing agent, in manuf. of nitrile rubber puff)
- L54 ANSWER 9 OF 11 HCA COPYRIGHT 2004 ACS on STN  
117:242792 Thermal recording materials with foamed cured resin interlayer. Watanabe, Shinobu; Matsubayashi, Katsuaki; Ikezawa, Hideo (Oji Paper Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04148978 A2 19920521 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-272311 19901012.
- AB The title materials, having a heat-sensitive **layer** contg. a color-former and a color-developer on a substrate, contain a UV- or electron beam-cured resin interlayer having a foamed structure between the substrate and the **layer**. The materials show good thermal sensitivity and antisticking properties and prevent **adhesion** of stain to thermal head. Thus, a paper support was **coated** with a compn. contg. nonylphenoxyethyl acrylate, **urethane** acrylate oligomer having 2 ethylenic unsatd. double bonds, p,p'-oxybisbenzenesulfonylhydrazide, and urea, irradiated with an electron beam, heat-treated at 130° for 3



min to foam the interlayer, and then **coated** with a compn. contg. 3-(N-ethyl-N-isoamyl)-6-methyl-7-phenylaminofluoran and 4,4'-isopropylidenediphenol to give a thermal recording paper.

- IT **80-51-3**, p,p'-Oxybisbenzenesulfonylhydrazide  
(blowing agent, acrylic **polyurethane** contg., thermal recording material interlayer using)
- RN 80-51-3 HCA
- CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



- IC ICM B41M005-26
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT **Urethane** polymers, uses  
(acrylic, foamed, thermal recording material interlayer using)
- IT Acrylic polymers, uses  
(**polyurethane-**, foamed, thermal recording material interlayer using)
- IT **80-51-3**, p,p'-Oxybisbenzenesulfonylhydrazide  
(blowing agent, acrylic **polyurethane** contg., thermal recording material interlayer using)
- IT 93403-04-4D, Nonylphenoxyethyl acrylate, copolymer with ethylenic **urethane** acrylate oligomer  
(foamed resin, thermal recording material interlayer using)
- L54 ANSWER 10 OF 11 HCA COPYRIGHT 2004 ACS on STN
- 100:69278 Poly(vinyl chloride) foam having continuous cells. (Lonseal Corp., Japan). Jpn. Kokai Tokkyo Koho JP 58103536 A2 19830620 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-202989 19811215.
- AB PVC [9002-86-2] **paste** contg. a stabilizer, plasticizer, surfactant, azodicarbonamide (I) [123-77-3], and 4,4'-oxybis(benzenesulfonyl hydrazide (II) [**80-51-3**] is mixed with aq. alk. soln., e.g. aq. NaOH, to give a homogeneous **paste**, and the **paste** is **coated** on paper or cloth and heated to give foamed PVC with continuous (connected) cells. The foam has white color and excellent weatherability, stability, and moisture permeability. Thus, a **paste** was prepd. by mixing ZEON 25 (d.p. 900) 100, dioctyl phthalate 65, **epoxidized** soybean oil 2, Mark-FL-23 (stabilizer) 3, I 4, II

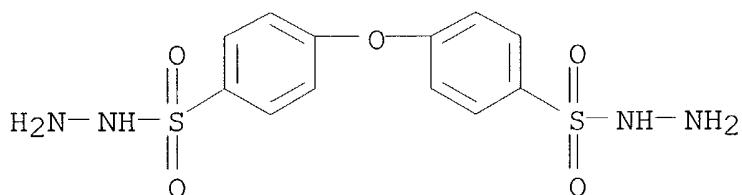
4, CaCO<sub>3</sub> 10, Emal (surfactant) 1 g, and pigment. The **paste** was mixed with 5 g 20% aq. NaOH, **coated** on a cloth support, and heated 1 min at 170° to give foamed PVC with moisture permeability 6.7 mg-cm-2-h-1 (measured by using leather moisture permeability test JIS K-6549).

IT **80-51-3**

(blowing agents, in manuf. of permeable PVC for leather substitutes)

RN 80-51-3 HCA

CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX NAME)



IC C08J009-10

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT 1310-73-2, uses and miscellaneous

(PVC **pastes** contg. aq., for moisture-permeable leather substitutes)

IT **80-51-3** 123-77-3

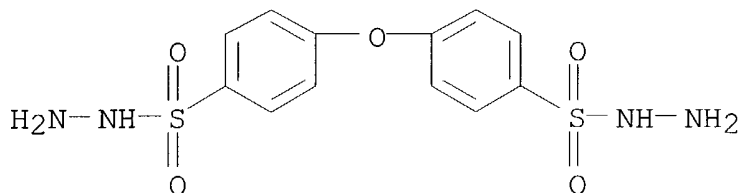
(blowing agents, in manuf. of permeable PVC for leather substitutes)

L54 ANSWER 11 OF 11 HCA COPYRIGHT 2004 ACS on STN

99:39939 Decorative **sheets** for walls. (Kyowa Leather Cloth Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58016827 A2 19830131 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-115617 19810723.

AB Chem. embossed decorative **sheets** for walls are prepd. by printing substrates with blowing agent-contg. plastisol inks, **coating** with plastisols contg. blowing agents having higher decompn. temp. than that of the inks, and heating at temps. above the decompn. temp. of those blowing agents. Thus, a substrate was printed in a given design with a compn. of **paste** grade PVC [9002-86-2] 100, dihexyl phthalate 60, **epoxidized** soybean oil 3, Zn octanoate 3, 4,4'-oxybis(benzenesulfonyl hydrazide) (I) [ **80-51-3**] 10, and TiO<sub>2</sub> 5 parts, heated 1 min at 140°, **coated** with a similar compn. contg. 5 parts azodicarbonamide [123-77-3] instead of I to form an even surface (0.2 mm thick), and heated 1 min at 140° and 1.5 min at 200° to form an embossed design of thickness 2.0 and 1.2 mm.

IT 80-51-3  
 (blowing agents, for prepn. of chem. embossed decorative PVC  
**sheets**)  
 RN 80-51-3 HCA  
 CN Benzenesulfonic acid, 4,4'-oxybis-, dihydrazide (9CI) (CA INDEX  
 NAME)



IC B29D027-00; B05D005-06; B29C023-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 ST chem embossing decorative **sheet**; PVC plastisol  
**coating**; blowing agent plastisol  
 IT Blowing agents  
 (PVC plastisols contg., in prepn. of chem. embossed decorative  
**sheets**)  
 IT Embossing  
 (chem., of decorative PVC **sheets**)  
 IT 80-51-3 123-77-3  
 (blowing agents, for prepn. of chem. embossed decorative PVC  
**sheets**)  
 IT 9002-86-2  
 (plastisols, chem. embossed decorative **sheets** prepd.  
 by)

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L55 1 S 80-51-3  
 L56 2 S L17 NOT L55

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L57 2 S L56

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L57 ANSWER 1 OF 2 HCA COPYRIGHT 2004 ACS on STN  
 134:282166 Preparation of a coating, a coated substrate, an adhesive, a  
 film or sheet, and the coating mixture to be used. Hesselmans,

Laurentius Cornelius Josephus; Spek, Dirk Pieter (Stahl International B.V., Neth.). PCT Int. Appl. WO 2001023451 A2 20010405, 33 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-NL699 20000929. PRIORITY: NL 1999-1013179 19990930.

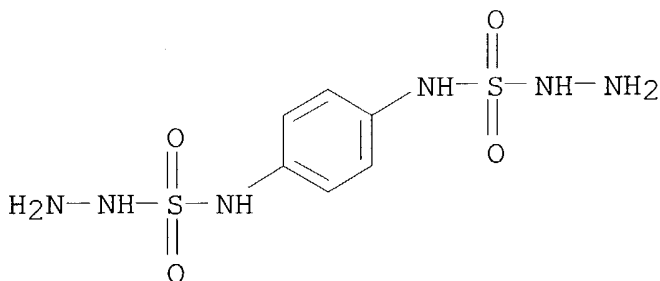
AB In this process, a mixt. of a polyisocyanate functional, a polyepoxide functional, a polyanhydride functional or a polyketone functional compd. or polymer and a compd. contg. reactive H, in which the compd. contg. reactive H is dispersed in a nonreactive matrix, which mixt. is not or low reactive at ambient conditions and highly reactive under selected conditions, is applied onto a substrate at ambient temp., followed by heating. At ambient temp. the compd. contg. reactive H is a solid material, a powder, a granule, a flake or grind or a ground mixt. The coatings, coated substrates, adhesives, films, sheets, impregnated substrates, synthetic leathers, in-mold coatings, coated leathers, coated poly(vinyl chloride), coated nonwovens, coated coagulated polyurethane substrates, breathable coated substrates, are obtained by applying the the title process.

IT 120551-83-9 332421-39-3

(curative; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)

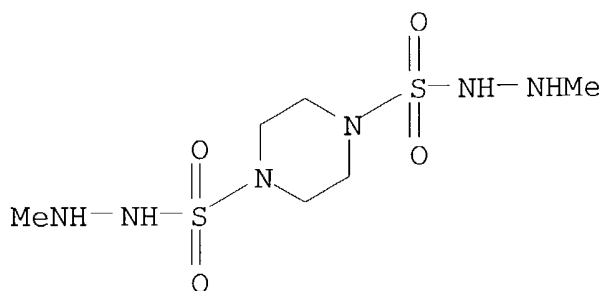
RN 120551-83-9 HCA

CN Hydrazinesulfonamide, N,N'-1,4-phenylenebis- (9CI) (CA INDEX NAME)



RN 332421-39-3 HCA

CN 1,4-Piperazinedisulfonic acid, bis(2-methylhydrazide) (9CI) (CA INDEX NAME)



- IT Adhesives  
 Coating materials  
 Crosslinking kinetics  
 Films  
 Leather substitutes  
 (adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT Nonwoven fabrics  
 (for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT Epoxy resins, uses  
 (for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT Polyurethanes, uses  
 (polyether-; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT Crosslinking agents  
 (reactive hydrogen compds.; adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT 332421-16-6P 332421-17-7P 332421-18-8P 332421-19-9P  
 332421-20-2P 332421-21-3P 332421-23-5P 332421-24-6P  
 332421-25-7P 332421-26-8P 332421-27-9P 332421-28-0P  
 332421-29-1P 332421-30-4P 332421-31-5P 332421-32-6P  
 332421-33-7P 332840-39-8P  
 (coating or film; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT 1071-93-8P, Adipic dihydrazide 51440-70-1P 52284-45-4P  
 72044-86-1P 332421-14-4P  
 (curative; for coating, adhesive, a film or sheet formulated from a reactive mixt. of long pot life, fast reaction, and low toxic vapors)
- IT 50-01-1, Guanidine hydrochloride 56-87-1, Lysine, uses 80-51-3,

p,p'-Oxybis benzene sulfonyl hydrazide 110-85-0, Piperazine, uses  
 142-64-3, Piperazine dihydrochloride 497-18-7, Carbodihydrazide  
 506-93-4, Guanidine nitrate 593-87-3, Guanidine acetate  
 925-83-7, Sebacic dihydrazide 996-98-5, Oxalic dihydrazide  
 2760-98-7, Isophthalic dihydrazide 3815-86-9, Malonic dihydrazide  
 4080-98-2 4146-43-4, Succinic dihydrazide 7204-34-4, Piperazine  
 diacetate 29557-85-5 32251-26-6 62917-74-2 92238-37-4  
 100224-74-6, Guanidine carbonate **120551-83-9** 123852-58-4  
 126953-51-3 199926-21-1 332421-34-8 332421-36-0 332421-37-1  
**332421-39-3** 332421-40-6 332840-40-1

(curative; for coating, adhesive, a film or sheet formulated from  
 a reactive mixt. of long pot life, fast reaction, and low toxic  
 vapors)

IT 109-85-3DP, reaction products with polyurethane prepolymer  
 116-09-6DP, Hydroxyacetone, reaction products with polyurethane  
 prepolymer 68084-58-2DP, reaction products with hydroxyacetone  
 332849-22-6DP, PEC 205, reaction products with methoxyethylamine  
 (for coating, adhesive, a film or sheet formulated from a  
 reactive mixt. of long pot life, fast reaction, and low toxic  
 vapors)

IT 302-01-2, Hydrazine, reactions 822-06-0, Hexamethylene  
 diisocyanate 4098-71-9, IPDI 5124-30-1 26471-62-5, TDI  
 (for coating, adhesive, a film or sheet formulated from a  
 reactive mixt. of long pot life, fast reaction, and low toxic  
 vapors)

IT 3779-63-3, N,N',N''-Tris(6-isocyanatohexyl)isocyanurate  
 332855-83-1, RU 4049 332855-89-7, RU 3952 332855-92-2, RU 3953  
 (for coating, adhesive, a film or sheet formulated from a  
 reactive mixt. of long pot life, fast reaction, and low toxic  
 vapors)

IT 9002-86-2, PVC  
 (leather substitutes; for coating, adhesive, a film or sheet  
 formulated from a reactive mixt. of long pot life, fast reaction,  
 and low toxic vapors)

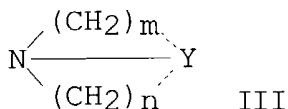
IT 3779-63-3DP, urethane derivs. with hydroxyacetone 9040-80-6P  
 68084-58-2P 70640-42-5P 332421-12-2P  
 (prepolymer; for coating, adhesive, a film or sheet formulated  
 from a reactive mixt. of long pot life, fast reaction, and low  
 toxic vapors)

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110:222489 Method for forming a direct-positive color image with  
 developer having improved stability. Ueda, Shinji; Heki, Tatsuo;  
 Inoue, Noriyuki; Ishikawa, Takatoshi; Ohki, Nobutaka; Yagihara,  
 Morio; Morimoto, Kiyoshi; Fujimoto, Hiroshi; Andoh, Kazuto (Fuji  
 Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 285010 A2  
 19881005, 108 pp. DESIGNATED STATES: R: DE, FR, GB, NL.  
 (English). CODEN: EPXXDW. APPLICATION: EP 1988-104779 19880324.

PRIORITY: JP 1987-71041 19870325; JP 1987-72573 19870326; JP 1987-72574 19870326.

GI



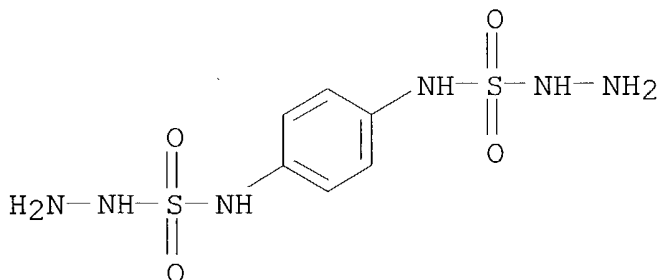
AB A method for forming a direct-pos. color image, with a material contg.  $\geq 1$  internal latent image-type Ag halide emulsion layer which is unfogged and  $\geq 1$  dye image-forming coupler on a support, comprises: (1) subjecting the resulting material to fogging exposure by light and/or processing it with a nucleating agent before development, and then developing the resulting material with a surface developing soln. contg. an arom. primary amine type color developing agent; or (2) developing the material after the imagewise exposure with a surface developer soln. contg. an arom. primary amine-type color developing agent under fogging exposure and/or in the presence of a nucleating agent; and bleach-fixing the resulting material, wherein the color developing soln. contains  $\geq 1$  preservative compd. selected from R1XNHNHR2 (I), R3R4NNR5R6 (II), R7R8NR9CO2H, or III [X = divalent group from CO, SO2 and C:NH; R1 = OH, hydroxyamino, carbamoyl, hydrazinocarbonyl, etc.; R2 = H, alkyl, aryl; R3-R6 = R2, heterocyclyl, or they may combine to form a heterocycle; R7, R8 = H, alkyl; R9 = alkylene; the total C in R7-R9 is  $\geq 3$ ; Y = trivalent atom or group; m = 0-4; n = 1-5]; and a dimer or a polymer of I, II or III. The stability and coloring property of the developer is enhanced.

IT 120551-83-9

(photog. color developing soln. contg. preservative from)

RN 120551-83-9 HCA

CN Hydrazinesulfonamide, N,N'-1,4-phenylenebis- (9CI) (CA INDEX NAME)



IT Photographic developers

(color, with increased stability and coloring property)

IT 67-43-6, Diethylenetriaminepentaacetic acid 97-05-2,  
5-Sulfosalicylic acid 482-54-2, Cyclohexanediaminetetraacetic acid  
1429-50-1, Ethylenediaminetetramethylenephosphonic acid 2809-21-4,  
1-Hydroxyethylidene-1,1-diphosphonic acid 3148-72-9,  
Diaminopropanoltetraacetic acid 6419-19-8, Nitrilo-N,N,N-  
trimethylenephosphonic acid 37971-36-1  
(photog. color developer soln. contg. preservative and, with  
improved stability)

IT 56-86-0, L-Glutamic acid, uses and miscellaneous 109-84-2  
142-73-4 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 479-59-4  
497-18-7, Carbonic dihydrazide 1118-68-9 1576-35-8 1619-34-7,  
1-Azabicyclo[2.2.2]octan-3-ol 3710-84-7 3731-38-2,  
1-Azabicyclo[2.2.2]octan-3-one 4114-31-2 4319-49-7,  
4-Morpholinamine 5351-23-5 5815-11-2 5815-14-5 6635-46-7  
6674-22-2 6917-37-9 7738-38-7 13529-51-6 14392-55-3,  
Hydrazinesulfonic acid 19247-05-3 28551-14-6 76756-02-0  
105384-29-0 119310-64-4 119310-67-7 120543-70-6 120543-71-7  
120543-72-8 120543-73-9 **120551-83-9** 120551-84-0  
120551-85-1 120551-86-2 120583-50-8  
(photog. color developing soln. contg. preservative from)